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The Association of Wellness Policy Quality and Percentage of Obesity in Schools

by

Bryce M. Abbey

A DISSERTATION

Presented to the Faculty of

The Graduate College at the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Doctor of Philosophy

Major: Human Sciences

Under the Supervision of Assistant Professor Lisa Franzen-Castle

Lincoln, Nebraska

July, 2014

# The Association of Wellness Policy Quality and Percentage of Obesity in Schools

Bryce M. Abbey, Ph.D.

University of Nebraska, 2014

Advisor: Lisa Franzen-Castle

Schools possess a unique opportunity to reach a large captive audience and are becoming one of the battlegrounds for childhood obesity. To address the school environment's role on the influence of American children's nutritional intake and participation in physical activity, the United States (US) Federal Government adopted the Healthy, Hunger-Free Kids Act of 2010, placing an emphasis on implementation of the local school wellness policy (LSW). The purpose of this study was to examine the association between LSW and percentage of obesity in school districts within Nebraska. Aggregate district-wide body mass index (BMI) percentile data were utilized from previously collected data. LSWs were collected and analyzed from each district ( $n=12$ ) participating in the study utilizing the Wellness School Assessment Tool. Cohen's kappa ( $\kappa$ ), was used to determine if there was agreement between two policy raters. It showed substantial agreement,  $\kappa = .681$  (95% CI, .632 to .730),  $p < .0005$ . District percentage of obesity was not predicted by any of the predictor variables including LSW comprehensiveness, LSW strength, percentages of students eligible for free and reduced school meals, or percentage of students registered as white. Pearson correlations of the variables showed moderate correlations that were not significant between percentage of students eligible for free and reduced school meals and district percentage of obesity ( $r = .364$ ) and also a small negative correlation between percentage of students registered as White and district percentage of obesity ( $r = -.297$ ) and no correlation between district

percentage of obesity and either LSW comprehensiveness ( $r = -.003$ ) and LSW policy strength ( $r = .050$ ). Findings from this study suggest that having a comprehensive and/or strong district wellness policy may not have an effect on the percent of obesity within a school district. School districts should not believe that having a LSW will have a positive impact on the obesity rates in the district. School administrators should look to address implementation of policies that may have an influence on the school environment.

### **Dedication**

I would like to dedicate this work to my family; my wife Erin, son Kade, daughter Sloane, my parents Mike and Lorie Abbey, my in-laws Rex and Bonnie Liedtke and my grandparents, especially Grandpa Abbey- who loves to brag about his grandchildren.

## **Acknowledgements**

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## **Abbreviations**

BMI: Body Mass Index

CDC: Center of Disease Control

CNRA: Child Nutrition and Women, Infant, and Children Reauthorization Act

DHHS: Department of Health and Human Services

FMNV: Foods of minimal nutritional value

FNS: Food and Nutrition Service

HHFKA: Healthy, Hunger-Free Kids Act of 2010

LSW: Local school wellness policy

NCHS: National Center for Health Statistics

NE: Nebraska

NHANES: National Health and Nutrition Examination Survey

NSLA: Richard B. Russell National School Lunch Act

NSLP: National School Lunch Program

SBP: School Breakfast Program

SES: Socioeconomic Status

WellSAT: Wellness School Assessment Tool

WIC: Women, Infants and Children

US: United States

USDA: United States Department of Agriculture

## **CHAPTER I**

### **Introduction**

#### **The Statement of Needs**

Childhood obesity has become the most common disorder of childhood in industrialized nations and continues to be a key focus for public health efforts in the United States (US) (Office of President, U.S.Department of Agriculture, & U.S.Department of Health and Human Services, 2013; Reilly, 2005). Obesity is defined as an excess of body fat which increases the risk of morbidity and/or premature mortality (Ogden & Flegal, 2010; Reilly, 2005). In June 2013, the American Medical Association adopted a policy recognizing obesity as a disease, which will allow for changes in how the medical community handles obesity patients (Breymaier, 2013). According to national reference data, a significant amount of evidence shows the recommended body mass index (BMI) percentile cutoff (BMI  $\geq$  95<sup>th</sup> percentile) accurately identifies childhood obesity (Center for Disease Control (CDC), 2013; Flegal & Ogden, 2011; Reilly, 2005). Previous research has shown that BMI percentiles correlates well with direct measures of body fat, including underwater weighing and dual energy x-ray absorptiometry (Mei, Grummer-Strawn, Pietrobelli, Goulding, Goran, & Dietz, 2002). The prevalence of obesity among children worldwide is increasing rapidly and data from two National Health and Nutrition Examination Surveys (NHANES) (1976–1980 and 2009–2010) shows the prevalence of obesity in the US is mirroring this trend (Ogden, Carroll, Kit, & Flegal, 2012). In Nebraska, the 2010-2011 Youth BMI Surveillance Project Report stated that approximately one in five students in first, fourth, seventh and tenth grades were obese and an additional one in six students was considered overweight

during the 2010-2011 academic school year (Nebraska Department of Health and Human Services, 2012).

Children that are overweight and obese are beginning to see the onset of diseases that were previously only thought to be present in adulthood. Research has shown that being overweight as a child increases the odds for prehypertension by 50% and doubled or tripled the odds of hypertension when compared to normal weight children (Friedemann et al., 2012; Rosner, Cook, Portman, Daniels, & Falkner, 2009). Joint problems, musculoskeletal discomfort, and breathing problems, such as sleep apnea and asthma, are also beginning to show up earlier in life. Obese children are more likely to become obese adults, with increased risks of a number of serious health related conditions (CDC, 1996). The combination of rising prevalence rates with the potential subsequent adverse consequences has created a public health crisis (Reilly, 2005). For the first time in history, children are projected to have a shorter life expectancy than their parents (Olshansky et al., 2005).

Schools possess a unique opportunity to reach a large captive audience and are becoming one of the frontlines for childhood obesity. In 2011, approximately 55 million children were enrolled in grades K-12 in the US (Barnes et al., 2011). No other institution has as much continuous and intensive contact with children (Fox, Dodd, Wilson, & Gleason, 2009). From the age of 5 through 17 years, US children spend an average of 6 to 8 hours per day and 180 days per year at school (Dworak, 2009). Many school-aged children may consume both breakfast and lunch at school; for those that do, they consume an average of 47% of their daily caloric intake at school (Briefel, Crepinsek, Cabili, Wilson, & Gleason, 2009). Sixty-seven percent of school-aged children reported

eating some type of low-nutrient, energy-dense food at school (Briefel et al., 2009).

School wellness policies can help improve the health of US children by enhancing the school environment through promoting healthy eating and participation in physical activity (Wechsler & McKenna, 2004).

The US Federal Government has identified the importance of schools in the fight against childhood obesity. To address the school environment's role on the influence of US children's nutritional intake and participation in physical activity, the US Federal Government adopted the Child Nutrition and Women, Infant, and Children Reauthorization Act (CNRA) of 2004. This act included a school wellness component requiring school districts to adopt and implement a wellness policy by the first day of the 2006-2007 school year (S. 2507, 2004). In 2010, Section 204 of the Healthy, Hunger-Free Kids Act of 2010, Public Law 111-296, added Section 9A to the Richard B. Russell National School Lunch Act (NSLA) (42 U.S.C. 1758b), Local School Wellness Policy (LSW) Implementation. This extension of Section 204 strengthens wellness policies by emphasizing ongoing implementation of the local wellness policy with periodic reviews and updates (Long, 2011).

Schools are beginning to add measurement of BMI and BMI percentile into the health screenings during the school year. School-based measurement of children's BMI is a useful tool for tracking childhood obesity rates and may be a useful tool in interventions seeking to reduce the increasing obesity trends (Sandoval et al., 2012). The Institute of Medicine has recommended the practice of school level BMI measurements as a way to address the public health issue of childhood obesity (Koplan, Liverman, & Kraak, 2005). Many states, as well as local school district levels, have begun to address BMI

measurements in their policies. As of 2010, twenty states require BMI or body composition screening and 9 states recommend BMI screenings or assessments that include body composition (Linchey & Madsen, 2011). The Nebraska Department of Health and Human Services (DHHS) addresses BMI screening in their “Guidelines for Nebraska Schools- Nebraska Schools Health Guidelines.” The guideline states:

BMI Calculation through measurement of height and weight is the only condition prescribed by the DHHS for the addition to school health screening requirements (Neb. Rev. Stat. 79-248). Children in preschool programs and kindergarten, first through fourth, seventh, and tenth grades are to be weighed and measured annually, with corresponding calculation of BMI as the measure of interest for interpretation.

It also states that the use of these data will be in the aggregate, used to assess the food and activity environments provided at school, and also as an evaluation measurement of school wellness policy implementation (Nebraska Department of Health and Human Services, 2012).

Despite extensive interest in leveraging school environments and policies to address the issue of childhood obesity, a gap in the literature exists for evaluating the association between LSW and percentile of obese school-aged children. Most prior research has sought to evaluate either school environments (Briefel et al., 2009; Datar & Nicosia, 2012; Finkelstein, Hill, & Whitaker, 2008; Fox, Gordon, Nogales, & Wilson, 2009; Fox et al., 2009; Kakarala, Keast, & Hoerr, 2010; Kubik, Lytle, Hannan, Perry, & Story, 2003) or school wellness policy (Brener, Chiqui, O'Toole, Schwartz, & McManus, 2011; Chiqui et al., 2010; Gaines, Lonis-Shumate, & Gropper, 2011; Hoxie-

Setterstrom & Hoglund, 2011; Longley & Sneed, 2009; Metos & Nanney, 2007; Probart, McDonnell, Weirich, Schilling, & Fekete, 2008; Schwartz et al., 2012; Weber, 2007) independently without addressing the issue of how policy may be associated with BMI prevalence rates. Additionally, previous research is often limited to self-reported surveys from school officials, which can lead to response bias or inaccurate reporting (Fox et al., 2009; Sandoval et al., 2012). It is important to address how well aligned the LSW is to the requirements for the Healthy, Hunger-Free Kids Act of 2010. According to Schwartz et al. (2012), LSWs have the possibility to improve the school environment, however future regulations of LSWs need to be centered on writing strong and comprehensive policies. Local school wellness policies that are comprehensive and contain strong language, indicating the language is clear and specific, might promote healthier school environments and be associated with a lower prevalence of school children who have BMI's outside of the normal range.

### **The Purpose of the Study**

The purpose of this study was to examine the association between local school wellness policy (LSW) and percentage of obesity in selected school districts within Nebraska. Aggregate district-wide BMI percentile data were utilized from previously collected height and weight data from the school districts. LSWs were collected and analyzed from each district participating in the study utilizing the Wellness School Assessment Tool (WellSAT).

### **Hypothesis Statement**

School districts with stronger LWSs will have a lower percentage of students that are obese.



**Research Questions**

1. Does the comprehensiveness score from the WellSAT predict the percentage of children that are obese within a school district?
2. Does the strength score from the WellSAT predict the percentage of children that are obese within a school district?

## **CHAPTER II**

### **Review of Literature**

#### **Defining Childhood Obesity and Risks**

The definition of childhood obesity has changed many times over the years. Arrays of terms, metrics, and cut-off values have been used to describe and assess overweight and obesity in children (Ogden, 2010). Weight status is defined among children aged 2 through 19 years based on body mass index (BMI) (Ogden, 2012). BMI is calculated as weight in kilograms divided by height in meters squared. In recent years, changes have taken place in the terminology of childhood obesity. The terminology used in the United States (US) was based on an expert committee's recommendation, which was convened by federal agencies for high BMI-for-age in children. The committee defined childhood overweight as a BMI at or above the 95th percentile for sex-and age-specific reference populations and they suggested the designation of "at risk for overweight" for BMI values between the 85th and 95th percentiles of BMI (Ogden, 2010). An expert committee report from the American Medical Association recommended to retain the two cut-off values of the 85th and 95th percentiles of BMI-for-age but suggested a change in terminology. The change included defining BMI-for-age from the 85th up to the 95th percentile as "overweight" and "obesity" as BMI-for-age at or above the 95th percentile. National agencies including the National Center for Health Statistics (NCHS) and publications from the Centers for Disease Control and Prevention (CDC) continue to include prevalence estimates at the 85th and 95th percentiles, however, they too have changed terminology and now use the term

“overweight” for a BMI-for-age between the 85th and 95th percentile (previously “at risk for overweight”) and the term “obesity” for a BMI-for-age at or above the 95th percentile (previously “overweight”) (Ogden & Flegal, 2010).

Today, children’s life expectancy is now shorter than their parents (Olshansky et al., 2005). To address this issue of childhood obesity First Lady Michelle Obama has launched an initiative called “Let’s Move” (Office of President et al., 2013). The initiative aims to solve the childhood obesity problem within a generation (Office of President et al., 2013). The data from two National Health and Nutrition Examination Surveys (NHANES) (1976–1980 and 2009–2010) showed that prevalence of obesity worldwide for children aged 2 through 5 years increased from 5.0% to 12.1%; for those aged 6 to 11 years, prevalence increased from 6.5% to 18.0%; and for those aged 12 to 19 years, prevalence increased from 5.0% to 18.4% (Ogden et al., 2012). Data among US children show that prevalence in the US is mirroring the same trend (Ogden et al., 2012).

Overweight and obese children are suffering from disease once thought to only be present in adults. Recent research indicated that having a BMI percentile above the 95th percentile significantly worsens the risk parameters for cardiovascular disease in school-aged children (Friedemann et al., 2012). Research also shows that being overweight as a child increased the odds for prehypertension by 50% and double or tripled the odds of hypertension compared to normal weight children (Friedemann et al., 2012; Rosner, Cook, Portman, Daniels, & Falkner, 2009). Obese children may also suffer from joint problems, musculoskeletal discomfort, and breathing problems, such as sleep apnea and asthma. Obese children are more likely to become obese adults, with increased risks of a number of serious health related conditions (CDC, 1996).

## **The Role of Schools in Childhood Obesity**

Schools have the capacity to reach a large captive student population and they stand to serve a vital role in the battle against childhood obesity. Schools alone will not solve the obesity epidemic; however it is unlikely to be halted without strong school-based policies and programs. In 2011, there were approximately 55 million US children enrolled in grades K-12 (Barnes et al., 2011). US children spend almost 1260 hours in school each year for an average of about of 6 to 8 hours per day for about 180 days (Dworak, 2009). This type of continuous contact with children cannot be found in any other institution (Fox et al., 2009). During a typical school day, school-aged children consume an average of 35% of their daily caloric intake (Briefel et al., 2009). With improved school food environment policies, schools may help improve the health of US children through promoting healthy eating and participation in physical activity (Wechsler & McKenna, 2004).

### **School wellness policy.**

To address the school environment's role on the influence of US children's nutritional intake and participation in physical activity, the US Federal Government adopted the Child Nutrition and Women, Infant, and Children Reauthorization Act (CNRA) of 2004. This act included a school wellness component requiring school districts to adopt and implement a wellness policy by the first day of the 2006-2007 school year. This law outlined 5 content areas that all local educational agencies participating in the National School Lunch Program (NSLP) needed to include in their wellness policy: (1) goals for nutrition education, physical activity, and other school wellness programs to promote student wellness, (2) nutrition guidelines for foods

available at school, (3) assurance that guidelines for reimbursable school meals meet United States Department of Agriculture (USDA) guidelines, (4) evidence of a plan for monitoring the policy, and (5) involvement of parents, students, representatives of the school food authority, the school board, school administrators, and the public in development of school wellness policy content (S. 2507, 2004).

In 2010, Section 204 of the Healthy, Hunger-Free Kids Act of 2010, Public Law 111-296, added Section 9A to the Richard B. Russell National School Lunch Act (NSLA) (42 U.S.C. 1758b), Local School Wellness Policy Implementation. The provisions set forth in Section 204 expand upon the previous LSW requirement from the Child Nutrition and Special Supplemental Nutrition Program for Women, Infants and Children (WIC) Reauthorization Act of 2004 (Public Law 108-265) (Long, 2011). The additions to Section 204 were put in place to strengthen the LSWs by placing an emphasis on the actual implementation of the LSW. It also included that policies must undergo periodic reviews and receive necessary updates. The expansion was also to include the formation of a wellness team. The team is to include collaborators participating in the policy development, with the team including more members from the community level (Long, 2011).

Multiple studies have examined LSWs required by the federal mandate. Various attempts have been made to provide national level implementation numbers as well as compliance numbers (Chriqui et al., 2010; Longley & Sneed, 2009; Moag-Stahlberg, Howley, & Luscri, 2008). A 2008 report, based on 49 US states, found that 68% of policies were consistent with the Child Nutrition Reauthorization Act of 2004 (Moag-Stahlberg et al., 2008). Prior to the federal mandates, school food directors reported only

meeting 37.4% of the wellness components. Following the legislation 72.4% of the wellness components were in place (Longley & Sneed, 2009). In 2010, Chriqui reported that 99% of students in the US attended schools with wellness policies in place and 61% of students were in a district with a fully compliant wellness policy (Chriqui et al., 2010).

Policy evaluation has become more consistent in recent years. The early research only examined whether the policy addressed the requirements of the CRNA (Moag-Stahlberg et al., 2008). Then, research in 2009, used constructs from a qualitative questionnaire to develop a quantitative survey for policy components that were present in states with strong legislative environments (Longley & Sneed, 2009). Schwartz et al. (2009) published their Wellness School Assessment Tool (WellSAT) in 2009, which has become widely used to measure quality of school wellness policies. Two reports from the Robert Wood Johnson Foundation's Bridging the Gap program have utilized the WellSAT for the assessment of school wellness policy in recent years (Chriqui et al., 2010; Chriqui et al., 2013). Continued research using the WellSAT is needed to define what the results of the survey will mean for school wellness policy implementation and revisions in the future.

Individual states have also been targeted for research involving LSW. Metos and Nanney (2007) reported a 78% compliance with the federally mandated policies for schools in Utah (Metos & Nanney, 2007). School districts in Mississippi reported a 79% compliance with physical activity and physical education and only a 65% compliance with nutrition education (Howie, 2010). Similar levels of compliance were seen in Alabama at 71% (Gaines et al., 2011), however schools in Pennsylvania had up to 100% compliance for physical activity and nutrition guidelines and 85% for establishing a plan

for implementation (Probart et al., 2008). Compliance also does not guarantee policies are designed with strong and comprehensive language for enforcing positive nutrition and physical activity environments. School districts in Pennsylvania developed their wellness policies following a template created from the federal mandate and these policies were evaluated and found to be general and ambiguous (Probart et al., 2008). Overall, the research prior to the new section 204 guidelines show strong participation, however most schools were lacking in strength, implementation, and evaluation.

### **School nutrition.**

#### ***National School Lunch Program.***

The National School Lunch Program (NSLP) is a federally assisted meal program in over 100,000 public and non-profit private schools. In 2011, the program provided healthy, low-cost or free lunches to more than 31 million children every school day. Established under the National School Lunch Act, signed by President Harry Truman in 1946, the program celebrated its 60th anniversary in 2006. Congress expanded the NSLP in 1998 to include reimbursement for snacks during afterschool educational and enrichment programs to children through 18 years old. At the federal level, the Food and Nutrition Service (FNS) administers the program and at the State level it is usually administered by State education agencies, which operate the program through agreements with local school food authorities (U.S. Department of Agriculture, 2012). In Nebraska, the NSLP is administered by the Nebraska Department of Education in the office of Nutrition Services, which operates the program through agreements with local school districts and private schools. School districts and private schools that choose to participate in the lunch program receive monetary reimbursement and donated

commodity assistance from United States Department of Agriculture (USDA) for each qualifying meal they serve. The qualifying meal must meet the federal nutrition requirements, and the school must offer eligible children free and reduced-price lunches (Nebraska Department of Education, 2013a).

The need for school provided meals has continued to rise. Since 1946, there have been more than 187 billion lunches served. By the end of the first year of the program about 7.1 million children were participating in NSLP and by 1970, 22 million. In 2005, more than 29.6 million children received a lunch through the NSLP (Nebraska Department of Education, 2013a). In an effort to improve the nutritional quality of meals served in schools, the FNS launched the School Meals Initiative for Healthy Children in 1994. This was the first full-scale reform of the school lunch program. The focus of this initiative was to update regulations on nutrition standards so that all school meals would meet the recommendations of the Dietary Guidelines for Americans. The regulations went into effect for the school year 1996-97 (Nebraska Department of Education, 2013a).

The USDA announced in the spring of 2012 that a new meal pattern would be used for the NSLP and would go into effect July 1, 2012. The new meal pattern is food requires minimum and maximum calories that are to be averaged over a week's time. There are now maximums for saturated fat and trans-fat has been completely eliminated. Meals will qualify as a reimbursable meal if it meets the following requirements for food components provided in Table 1. Table 1 was adopted from Final Rule Nutrition Standards in the National School Lunch and School Breakfast Programs – January 2012.

Based on income eligibility guidelines, any child at a school that participates may purchase a meal through the NSLP. Families with household incomes that are at or below



130 percent of the poverty level qualify for free meals. Those families between 130 percent and 185 percent of the poverty level qualify for reduced-price meals, not to exceed 40 cents. All families with incomes over 185 percent of poverty pay full price, even though their meals are still eligible for a small amount of reimbursement. It is up to the local school food authorities to set prices for full-price meals (Nebraska Department of Education, 2013a).

In 2006-07, Nebraska had 1,047 schools and residential child care institutions participate in the NSLP. Approximately 333,000 students in Nebraska have access to meals through the NSLP. On average about 68 percent of children, whom the lunch program is available to, choose to participate each day. In 2006-07, the average charge for elementary school was \$1.74 and \$1.93 in secondary schools (Nebraska Department of Education, 2013a).

Even though there was legislation in 2006 for including NSLP as part of the LSW, previous research including a literature review from 2004 concluded there was no strong evidence to link NSLP participation and overweight or obesity in children (Fox, Hamilton, & Lin, 2004). However, there continues to be allegations that the NSLP is contributing to the childhood obesity epidemic and research from Millimet et al. (2008) found a positive association between NSLP participation in kindergarten and a child's weight at third grade (Millimet, Tchernis, & Husain, 2010). Data on low-income girls found an association with NSLP participation and rate at which low-income girls gain weight compared with low-income girls that did not participate. The same weight gain differences were not present within boys that participated in the NSLP and boys that did not (Hernandez, Francis, & Doyle, 2011). However, Gleason and Dodd (2009) used

cross-sectional data of students grades 1 through 12 and found that participation in the NSLP was not related to student's BMI (Gleason & Dodd, 2009). Recent research continues to suggest the relationship between NSLP and higher body weight among girls but not boys (Mirtcheva & Powell, 2013).

Ongoing research in the school food environment shows that it may be more than just the NSLP contributing to childhood obesity. Continued changes to the entire school food environment will be essential in reducing childhood obesity. This includes the reduction/removal of sugar-sweetened beverages from school convenient stores and snack food sales, improvements to à la carte items, and reducing the frequency of low-nutrient, energy-dense foods provided at school (Briefel et al., 2009). Findings from Fox et al. (2009) suggested that limiting children's availability to low-nutrient, energy-dense foods during the school day may have promise for aiding in the reduction of children's total caloric intake and controlling children's BMI. Moving forward, the NSLP may play a role in the reduction of childhood obesity as new standards for school meals were put into place on July 1, 2013 (Mirtcheva & Powell, 2013). This initiative seeks to improve the nutritional content of NSLP meals. Future research might be expected to find a reduction in child weight outcomes as a result of improvements to the NSLP (Mirtcheva & Powell, 2013).

### ***School Breakfast Program.***

The School Breakfast Program (SBP) is a federally funded program which assists states in operating nonprofit breakfast programs in schools and residential childcare institutions. The SBP functions in the same manner as the NSLP. In Nebraska, the SBP is administered by the Nebraska Department of Education/Nutrition Services. All Schools

that participate in SBP must meet the recommendations of the 2010 Dietary Guidelines for Americans. At the beginning of the 2013-2014 school year, all schools participating in the SBP must plan breakfast meals that meet the calorie ranges, on average, over the course of the week and must meet the requirements for food components in Tables 1.

The consumption of breakfast by children has been related to many health benefits. The SBP gives children an improved opportunity for nutrient intake and leads to healthier body weight through increased breakfast consumption (Affenito et al., 2013). Children that skip breakfast have been shown to have a higher prevalence of obesity compared to those whom eat breakfast regularly (Deshmukh-Taskar et al., 2010).

***Competitive foods.***

The Healthy, Hunger-Free Kids Act of 2010, requires the development of federal nutrition standards for all competitive foods, which are foods that are sold or available in schools outside of NSLP (S. 2507, 2004). The current regulations for competitive foods prohibits the sale of foods of minimal nutritional value (FMNV) in the food service areas during meal periods (Federal Register, 2006). There are no federal regulations that currently exist for other competitive foods, such as those that are high in calories, fat, sodium, or sugar (Federal Register, 2006). On February 1, 2013, the USDA released a new proposed rule entitled “Nutrition Standards for All Foods Sold in School as required by the Healthy, Hunger Free Kids Act of 2010,” that would develop a national policy on the sale of competitive foods in schools (Appendix B).

The proposed rule also allows exceptions for foods sold as part of infrequent fundraising activities. All foods that meet the proposed standards could be sold during fundraisers during school hours. The proposed standards would not apply to items sold

during non-school hours, weekends or off-campus fundraising events, such as concessions during sporting events and school plays (Nutrition Standards for All Foods Sold in School, 2013). Public comments were invited for 60 days and comments ended April 9, 2013.

Competitive foods are often the target of schools looking to improve their food environment. Previous research has shown competitive foods are commonly available in schools (Fox et al., 2009; Kann, Grunbaum, McKenna, Wechsler, & Galuska, 2005; Probart et al., 2005; McDonnell, Probart, Weirich, Hartman, & Bailey-Davis, 2006) and most foods that were available were of low nutritional value (Finkelstein et al., 2008; Fox et al., 2009; Kakarala et al., 2010). Evidence also shows that availability of competitive foods can have a negative impact on the dietary intake of school children (Kubik et al., 2003), with students who chose competitive foods consuming 150 calories from low-nutrient energy-dense foods (Fox et al., 2009; Gordon, Crepinsek, Briefel, Clark, & Fox, 2009). Kubik et al. (2005) suggested a positive association between school food practices (i.e. incentives, rewards and/or classroom fundraising) and student BMI, with a 10% BMI increase for each additional food practice permitted (Kubik, Lytle, & Story, 2005). However, recent data from a longitudinal study from Van Hook and Altman (2012) suggested that the sale of competitive foods in schools is not associated with weight gain in middle school students. Other research has also supported that competitive foods may not be to blame for the rise in childhood obesity (Datar & Nicosia, 2012; Fletcher, Frisvold, & Tefft, 2010; von Hippel, Powell, Downey, & Rowland, 2007). Datar and Nicosia (2012) concluded this may be the case because the caloric contribution of in-school purchases is likely small.

Schools often have contracts with competitive food vendors and are concerned with lost revenue from the sales of competitive foods. A review of the literature shows that most schools have improved the nutritional quality of competitive foods without reducing revenue. Also, the same review showed that when limiting the availability of competitive foods, participation in school meal programs increases, thus compensating for any loss in revenue (Wharton, Long, & Schwartz, 2008).

### **Physical education and physical activity.**

Physical education and physical activity in schools may play an important role in the efforts to combat childhood obesity. In 2012, the National Association for Sport and Physical Education released its 2012 Shape of the Nation Report: Status of Physical Education in the USA. The report provides a current picture of physical education in the US education system. According to the report, only 38 states mandate physical education for all grade levels and most do not require any certain length of instructional time. It also reveals that more than half the states allow exemptions, waivers, and/or substitutions for physical education classes (National Association of Sport and Physical Education, 2012a). There are currently no federal laws that require physical education be provided to school-aged children. States are left to set guidelines and requirements for physical education and then it is left up to the individual school districts to monitor implementation (National Association of Sport and Physical Education, 2012a).

A growing body of evidence supports that regular physical activity has multiple benefits for physical, mental, and cognitive health. According to a 2010 CDC report, studies have found one or more positive associations between physical education/school-based physical activity and academic performance (CDC, 1996; Kohl, III & Cook, 2013).

The report for the Institute of Medicine (2013) also refers to research supporting the relationship of moderate to vigorous physical activity and the structure and function of the brain (Kohl, III & Cook, 2013). Increased time spent participating in physical education appears to have a positive relationship, or no relationship, with academic achievement (National Association of Sport and Physical Education, 2012a). The report indicates that increased time in physical education does not appear to have a negative impact on the academic achievement of students.

The Nebraska Physical Education Essential Learning's was revived in 2006 and serve as the state of Nebraska (NE) standards for physical education classes. However, the document is only intended as guidance for local school districts and they do not have to comply. The state of NE does mandate physical education in grades K-8 (National Association of Sport and Physical Education, 2012b). All high schools must offer physical education but it is up to the local school districts whether it is required or not (National Association of Sport and Physical Education, 2012b). There is currently no state requirement for daily physical activity to include daily recess (National Association of Sport and Physical Education, 2012b).

### **BMI measurement in schools.**

School-based BMI screenings have been increasing in recent years. Recommendations from the Institute of Medicine are to utilize BMI measurement as a way to address the public health issue of childhood obesity in schools (Koplan et al., 2005). The school-based measurement of children's BMI can be a useful tool for tracking childhood obesity rates over time (Sandoval et al., 2012). Schools may also find the data useful in interventions seeking to reduce the increasing obesity trends (Sandoval et al.,

2012). Many states, as well as local and school district levels, have begun to address BMI measurements in their policies. As of 2010, twenty states require BMI or body composition screening and 9 states recommend BMI screenings or assessments that include body composition (Linchey & Madsen, 2011).

According to Chapter 7 of the Nebraska Administrative code and the Nebraska Department of Health and Human Services, all schools are required to screen for Height, Weight, BMI and BMI percentile. The Nebraska School Health Guidelines states BMI percentiles through measurement of height and weight is the only condition prescribed by the Department of Health and Human Services for the addition to school health screening requirements. All children aged 3 to 5 years and those in Kindergarten, 1<sup>st</sup> through 4<sup>th</sup> grades, 7<sup>th</sup> grade, and 10<sup>th</sup> grade are to be measured annually, with corresponding calculation of BMI percentile as the measure of interest for interpretation. It also addresses that the use of these data will be in the aggregate, used to assess the food and activity environments provided at school, and also as an evaluation measurement of school wellness policy implementation (Nebraska Department of Health and Human Services, 2012).

### **BMI and academics.**

Research examining the relationship between childhood obesity and academic performance is limited, with only a few studies with significant data sets and even fewer with longitudinal data. Datar and Sturm (2004; 2006) have provided much of the current literature in this area. Their research showed that change in weight status in the first 4 years in school was a significant risk factor for negative school outcomes in girls but not

in boys. Results also indicated that boys whom were obese scored lower in math and obese females scored lower in both math and reading (Datar, Sturm, & Magnabosco, 2004; Datar & Sturm, 2006). However, additional research is needed before conclusive linking of weight status and obesity can be made.

### **Free/Reduced meals and BMI.**

Eligibility for free and reduced meals is often used as a proxy for socioeconomic status (SES). Children attending public schools have higher BMI percentiles than those attending private school even when controlling for SES (Li & Hooker, 2010). A study from Moreno et al. (2013) found that, within a district, low SES was associated with an elevated BMI (Moreno, Johnson-Shelton, & Boles, 2013). Data from the 2005-2008 National Health and Nutrition Examination Survey shows that most obese children are not low income children (living below 130% of the poverty line) and that prevalence of childhood obesity has increased at all income levels (Ogden, Lamb, Carroll, & Flegal, 2010). Research has shown that schools with higher median household incomes were associated with lower individual BMIs (Richmond et al., 2014). The research on SES and childhood obesity is inconclusive and further research is needed to identify the impact of SES on childhood obesity.



### **Definition of Key Terms**

**BMI:** Body Mass Index is a reliable indicator of body fatness which can be calculated from a child's weight and height.

**Childhood Obesity:** A child aged 2-18 years with a BMI percentile that is equal to or greater than the 95th percentile.

**Competitive Foods and Beverages:** Foods that are sold at school outside of and in competition with the federally reimbursable meal programs.

**Foods of Minimal Nutritional Value:** Foods that provide less than five percent of the U.S. Recommended Daily Intakes for each of eight specified nutrients per serving and/or per 100 calories. The specified nutrients include protein, vitamin A, vitamin C, niacin, riboflavin, thiamin, calcium and iron.

**Healthy School Meals:** Meals that meet the 2010 new school meal pattern which reflect the 2010 Dietary Guidelines for Americans.

## **CHAPTER III**

### **Methodology**

#### **Study Design**

The purpose of this study was to examine the association between local school wellness policy (LSW) and percentage of obesity in selected school districts within Nebraska. Aggregate district-wide BMI percentile data were utilized from previously collected height and weight data from the school districts. LSWs were collected and analyzed, using the Wellness School Assessment Tool (WellSAT), from each district participating in the study.

#### **Research Questions**

1. Does the comprehensiveness score from the WellSAT predict the percentage of children that are obese within a school district?
2. Does the strength score from the WellSAT predict the percentage of children that are obese within a school district?

#### **Significance of the Study**

Despite high levels of interest in leveraging school environments and policies to address the problem of childhood obesity, there is limited research available about whether such policies are effective or which policies have the highest potential to impact children's behaviors and thus have a positive influence on childhood obesity. The potential impact of the research could benefit a wide range of individuals. School administrators may benefit from the findings of this study to: 1) more strategically target school wellness policies and practices, and 2) establish partnerships with community members and universities for appropriate interventions. National or state child nutrition

agencies may also benefit from the outcomes of the study to 1) establish school wellness policy guidelines, 2) develop school wellness practice recommendations, and 3) establish best practices for school wellness policies and practices.

### **Ethical Considerations**

Permission was sought from the Institutional Review Board (IRB) at the University of Nebraska-Lincoln (UNL), with the University of Nebraska-Kearney (UNK) IRB deferring to UNL, and all school district administrators prior to any data collection (Appendix D). Each part of the research process was conducted in an ethical manner and measures were made to ensure that participants were treated with respect for all persons, justice, and beneficence. All data obtained during the research was used for research purposes only and was kept strictly confidential. All files will be maintained in a locked file cabinet at UNK for 5 years. Student's written or oral consent is not required for this study as the research team analyzed data that was already collected by the participating school districts.

### **District Demographics**

School district demographics were collected from the Nebraska Department of Education Website (Nebraska Department of Education, 2013b). School district demographics include percentage of students eligible for free and reduced school meals, percentage of students registered as White, and total student membership. Percentage of students eligible for free and reduced school meals were used as a proxy for district socioeconomic status.

## **BMI Screening**

### **Participants and data collection.**

Many school districts collect height and weight data each school year, which is maintained in a database at the school or within the UNK BMI Report Card Web Application. Aggregate data from each district was utilized.

### **Validity procedure.**

As part of the Nebraska Department of Health and Human Services School Health Program, Nebraska School Health Guidelines, all schools must weigh and measure students using standard procedures and use valid body weight scales and height stadiometers. According to Title 173, Nebraska Administrative Code Chapter 7 “Weight/height status screening shall be accomplished by the measurement of height and weight, calculation of body mass index (BMI), and assignment of percentile ranking utilizing age- and gender -specific charts”. These new regulations went into effect July 2014 (Nebraska Department of Health and Human Services, 2013). Previous research has shown that BMI percentiles correlate with direct measures of body fat, including underwater weighing and dual energy x-ray absorptiometry (Mei et al., 2002).

### **Data collection procedures.**

Aggregate data from students attending each school district, during the 2013-2014 school year, were analyzed with written permission from the school administrators. Aggregate data from the district included BMI percentile and/or percentage of obesity.

## **Wellness Policy Evaluation**

### **Participants and data collection.**

A convenience sample was selected from Nebraska schools for school wellness policy evaluation. The wellness policies were collected through school websites or direct contact with districts. Policies were coded using the quantitative assessment tool called the WellSAT (Schwartz et al., 2009) (Appendix F).

### **Validity procedure.**

The policy coding system was adapted for use in multiple studies around the country to measure the impact of school wellness policies (Barnes et al., 2011; Brener et al., 2011; Chriqui et al., 2010).

### **Evaluation instrument.**

Methods for policy coding were previously published by Schwartz et al. (Schwartz et al., 2012). Policies were coded using the WellSAT. It produces scores from 0 to 100 for both comprehensiveness and strength of the overall school wellness policy, as well as comprehensiveness and strength scores for the following sections: Nutrition Education and Wellness Promotion; Standards for USDA Child Nutrition Programs and School Meals; Nutrition Standards for Competitive and Other Foods and Beverages; Physical Education and Physical Activity; and Evaluation. Each of the 50 items are coded as 0, 1, or 2, where 0 represented no mention of the item in the wellness policy, 1 represented mention of the item in weak or vague language (e.g., “Vending machines should include items which are healthful”), and 2 indicated a strong and specific policy (e.g., “All items sold through vending machines shall contain no more than 1 serving per package, no more than 35% of calories from sugar, and no trans-fat”) (Schwartz et al.,

2009). Comprehensiveness and strength scores were calculated for each section based on individual item codes. The comprehensiveness score reflects the proportion of items within that section coded as a 1 or a 2. The strength score reflects the proportion of items coded as a 2. These scores were calculated for each of the five sections. Total comprehensiveness and total strength scores for the policy are the average of the five section scores (Schwartz et al., 2009).

### **Data Analysis Procedure**

Aggregate BMI data and policy evaluation data were entered into an Excel spreadsheet and transferred into IBM Statistical Package for Social Sciences version 20.0 (IBM SPSS) in the Physical Activity and Wellness Lab at UNK. Data were aggregated to the district level for analysis. Descriptive statistics were calculated including frequencies, means, and standard deviations. Inter-rater reliability was determined between researchers for the WellSAT using a Cohen's kappa analysis for reliability ( $\kappa = .681$ ). A Stepwise Multiple regression analyses was used to assess the relationship between school wellness policy comprehensiveness, school wellness policy strength, percentage of students eligible for free and reduced school meals, percentage of students registered as White and district percentage of obesity. Where school wellness policy comprehensiveness (x1), school wellness policy strength (x2), percentage of students eligible for free and reduced school meals (x3), percentage of students registered as White (x4), are the explanatory variables and district percentage of obesity is the dependent variable (y) ( $p < .05$ ). When the stepwise regression had no predictors enter into the model, two forced entry multiple regression analyses were conducted. The first used LSW policy comprehensiveness and LSW strength to predict district percentage of

obesity ( $p > .05$ ). While a second forced entry multiple regression analysis was conducted using the percentage of students eligible for free and reduced school meals and percentage of students registered as White to predict district percentage of obesity ( $p > .05$ ). The dependent variable scores, district percentage of obesity, were normally distributed district percentage of obesity, as assessed by Shapiro-Wilk's test ( $p > .05$ ). The independent variable scores were normally distributed for the primary outcome variables of school wellness policy comprehensiveness and school wellness policy strength as assessed by Shapiro-Wilk's test ( $p > .05$ ). The secondary outcome variables were normally distributed for percentage of students eligible for free and reduced school meals but not percentage of students registered as White, as assessed by Shapiro-Wilk's test ( $p < .05$ ).

## CHAPTER IV

### Results

#### School Districts Profile

Twelve Nebraska schools were analyzed for the 2013-2014 school year. Fifty percent of the schools had less than 500 students, with 33.3 percent having between 500-2500 and 16.7 percent greater than 2500. Approximately 33.3% of the schools had more than 50% of free- and reduced-priced meals and 91.6% of the schools had more than a 50% white student population (Nebraska Department of Educations, 2013b). District level results for each of the districts are presented in Table 2.

#### WellSAT overview

##### **Inter-rater reliability.**

Cohen's  $\kappa$  was used to determine the degree of agreement between two policy raters on using the WellSAT to code 15 school district wellness policies. Each of the 50 items on the WellSAT were coded as 0, 1, or 2, where 0 represented no mention of the item in the wellness policy, 1 represented mention of the item in weak or vague language, and 2 indicated a strong and specific policy. The two policy raters agreed on 463 items not being mentioned, 103 items mentioned as weak or vague language and 65 items indicating strong and specific language. However, policy rater 1 rated 39 items mentioned as weak or vague language when policy rater 2 rated them not being mentioned, and policy rater 2 rated 22 items mentioned as weak or vague language when policy rater 1 rated them not being mentioned. Policy rater 1 rated 33 items mentioned as weak or vague language when policy rater 2 rated them as indicating strong and specific



language, and policy rater 2 rated 11 items mentioned as weak or vague language when policy rater 1 rated them as indicating strong and specific language. Lastly, Policy rater 1 rated six items as indicating strong and specific language when policy rater 2 rated them as not being mentioned and Policy rater 2 rated eight items as indicating strong and specific language when policy rater 1 rated them as not being mentioned (Table 3). Overall, there was substantial agreement between the two raters,  $\kappa = .681$  (95% CI, .632 to .730,  $p < .0005$ ) (Table 4).

### **Prevalence of obesity and school wellness policy scores.**

Local school wellness policy (LSW) comprehensiveness, LSW policy strength, percentage of students eligible for free and reduced school meals, and percentage of students registered as White were used in a stepwise multiple regression analysis to predict district percentage of obesity. None of the prediction variables were significant and thus none entered into the model. Pearson correlations of the variables showed moderate correlations however, they were not significant between percentage of students eligible for free and reduced school meals and district percentage of obesity ( $r = .364$ ) and also a small negative correlation between percentage of students registered as White and district percentage of obesity ( $r = -.297$ ). There was only a very small correlation between district percentage of obesity and also LSW comprehensiveness ( $r = -.003$ ) and LSW policy strength ( $r = .050$ ) (Table 5).

After the stepwise multiple regression analysis results returned no prediction variable entering into the model, a forced entry multiple regression analysis was conducted using LSW comprehensiveness and LSW policy strength to predict district percentage of obesity. The first forced entry multiple regression analysis utilized the

WellSAT variables to answer the two primary research questions. Does the comprehensiveness score from the WellSAT predict the percentage of children that are obese within a school district? Also, does the strength score from the WellSAT predict the percentage of children that are obese within a school district? The regression equation from this forced entry multiple regression was not significant ( $F(2,9) = 0.038$ ,  $p = .963$ ) (Table 6). The LSW comprehensiveness and LSW strength had a correlation of .092,  $R^2 = .008$  and a standard error of 4.43 (Table 6). Neither LSW comprehensiveness nor LSW strength could be used to predict district percentage of obesity. In this study, LSW comprehensiveness had a slightly smaller Beta coefficient,  $-.136$  and LSW strength had a slightly larger Beta,  $.161$ .

The second forced entry multiple regression analysis was conducted based on previous literature which examined whether SES and ethnicity are good predictors of obesity rates (Moreno et al., 2013). The second forced entry multiple regression analysis was conducted using the percentage of students eligible for free and reduced school meals and percentage of students registered as White to predict district percentage of obesity. This regression equation was also not significant ( $F(2,9) = 0.738$ ,  $p = .505$ ) (Table 7). The percentage of students eligible for free and reduced school meals and percentage of students registered as White had a correlation of .375,  $R^2 = .141$  and a standard error of 4.12 (Table 7). Neither the percentage of students eligible for free and reduced school meals nor percentage of students registered as White could be used to predict district percentage of obesity. These data show that percentage of students eligible for free and reduced school meals had a larger beta coefficient,  $.293$ , than the percentage of students registered as White,  $-.115$ . However, Beta coefficients for both, percentage of

students eligible for free and reduced school meals and percentage of students registered as White, were still not statistically significant ( $p=.447$ ,  $p=.776$ ). Data analyses were separated since the total number of school districts was 12 and minimum cases-to-independent variables ratio should be 5:1 (Tabachnick & Fidell, 1983).

## **CHAPTER V**

### **Discussion**

Despite the amount of organizations identifying schools, and particularly school environments, as the smart place to start combating childhood obesity, there is little research about effective school-based methods to address the problem of childhood obesity (Dworak, 2009; Fox et al., 2009; Fox et al., 2004; Wechsler & McKenna, 2004). This study addressed whether or not local school wellness policies, as described in the Child Nutrition and Women, Infant, and Children Reauthorization Act (CNRA) of 2004, have the potential to impact percentage of obesity within a school district. A convenience sample of selected Nebraska school districts was used for local school wellness policy (LSW) evaluation. The LSW were collected through school websites or direct contact with districts. LSW were coded using the quantitative assessment tool called the WellSAT (Schwartz et al., 2009). A stepwise multiple regression analysis was used to assess the relationship between LSW comprehensiveness, LSW strength and district percentage of obesity. Results from this study do not show an association between LSW comprehensiveness or LSW strength and district percentage of obesity.

#### **WellSAT Inter-rater Reliability**

Previous research utilized Intraclass correlation coefficients to evaluate inter-rater reliability (IRR) between two independent coders (Schwartz et al., 2009). The intraclass correlation coefficient for the previous study was 0.70, indicating a good level of IRR (Schwartz et al., 2009). The current study chose to analyze IRR through the use of Cohen's kappa to assess the degree that coders consistently assigned 0, 1, or 2 to each of the 50 items on each LSW. The resulting kappa indicated a substantial agreement,  $\kappa =$

.681 (Landis & Koch, 1977). These results agree with previous research and support the WellSAT for producing replicable results (Schwartz et al., 2009). The benefit of using Cohen's kappa is that Cohen's kappa is the proportion of agreements that is truly observed between the two raters, after correcting for the proportion of agreements that takes place merely by chance. Cohen's kappa also takes into account the number of possible responses (e.g., easier to get a higher percent agreement if it is just yes/no compared to the agreement in the case of the WellSAT that utilizes 0, 1, 2).

### **District Demographics**

The data from twelve school districts from the state of Nebraska were used in the analysis of LSW and percentage of obesity. The current sample of schools was from districts with 78.8 percent white populations, compared to the state level of 70.0 percent white (Nebraska Department of Education, 2013b). The percent of students qualifying for free and reduced school meals was 46.1 percent within the current sample compared to 44.2 statewide (Nebraska Department of Education, 2013b). These school districts represented all sizes of districts ranging from districts of less than 500 students to districts greater than 2500 students.

The final number of school districts was lower than the original goal of at least 20 schools districts. Data collection was limited to school districts that had percentage of obesity data for the entire district. It was discovered that many districts are not collecting this data. Many school districts have begun the process of collecting height and weight and 18 school districts partnered with the UNK Physical Activity and Wellness Lab to complete the evaluation of BMI percentile for their districts. However, five of those districts were parochial schools, two districts ran into administrative resistance, and one

school personnel lost the height and weight data. The parochial schools do not release the demographic data for their districts that the current study was utilizing. After repeated attempts to access both percentage of students eligible for free and reduced school meals and percentage of students registered as White, it was discovered that it is common practice for parochial schools not to release these data publicly. The two schools that had administrative resistance could not get administrative approval for releasing student data and hoped to be using the Physical Activity and Wellness Lab service by next school year.

The collection of the LSWs was unique from district to district. Some LSW were able to be found easily through school websites, yet some LSW took local school officials days to find. Many schools were honest with the vagueness of the policy and it was evident in many of the policies. The LSWs ranged in length from a couple short paragraphs to multiple pages with evaluation criteria. It was interesting to see the vast range of scores for both LSW comprehensiveness and LSW strength within the twelve school districts even though they are all Nebraska school districts.

### **Stepwise Multiple Regression**

A stepwise multiple regression analysis was conducted to predict district percentage of obesity based on LSW comprehensiveness, LSW strength, percentage of students eligible for free and reduced school meals, and percentage of students registered as White, however none of the predictors entered into the model. Previous research found low SES (through the proxy of free and reduced meal eligibility) to be associated with higher BMI (Moreno et al., 2013; Ogden et al., 2010; Richmond et al., 2014). Pearson correlation for students eligible for free and reduced school meals showed moderate

correlations that were not significant with district percentage of obesity ( $r = .364$ ).

Additionally, the research by Moreno et al. (2013) found the strongest predictor of overweight/obesity was the ethnicity of the student. Pearson correlation for percentage of students registered as White was also a moderate correlation that was not significant with district percentage of obesity ( $r = -.297$ ). There was no correlation between district percentage of obesity and either LSW comprehensiveness ( $r = -.003$ ) or LSW strength ( $r = .050$ ). The Pearson correlations for percentage of students eligible for free and reduced school meals and percentage of students registered as White may reach significant levels with a great number of districts participating.

### **Forced Entry Multiple Regression**

After the stepwise multiple regression analysis did not return a prediction equation and no variables entered into the model, two forced entry multiple regression analyses were conducted. Data were separated into two separate analyses with the total number of school districts being 12, because the minimum cases-to-independent variables ratio should be 5:1 (Tabachnick & Fidell, 1983). The first forced entry multiple regression analysis utilized the WellSAT outcome variables to answer the two primary research questions. Does the comprehensiveness score from the WellSAT predict the percentage of children that are obese within a school district? Also, does the strength score from the WellSAT predict the percentage of children that are obese within a school district? The regression equation from this forced entry multiple regression was not significant ( $F(2,9) = 0.038$ ,  $p = .963$ ) (Table 7). The LSW comprehensiveness and LSW strength had a correlation of .092,  $R^2 = .008$  and a standard error of 4.43 (Table 7). Neither LSW comprehensiveness nor LSW strength could be used to predict district

percentage of obesity. In this study, LSW comprehensiveness had a slightly smaller Beta coefficient,  $-.136$  and LSW strength had a slightly larger Beta,  $.161$ . These results suggested that as LSW comprehensiveness increased percentage of obesity decreased. However, the results also showed that as LSW strength increased so did percentage of obesity, which is contradictory to what was hypothesized. This leads to the assumption that there are many factors that contribute to obesity and those factors may outweigh the strength of the LSW.

The second forced entry multiple regression analysis was conducted based on previous literature, which indicated that SES and ethnicity may be predictors of obesity rates (Moreno et al., 2013; Ogden et al., 2010; Richmond et al., 2014). The second forced entry multiple regression analysis was conducted using the percentage of students eligible for free and reduced school meals (as a proxy for SES) and percentage of students registered as White to predict district percentage of obesity. This regression equation was also not significant ( $F(2,9) = 0.738$ ,  $p = .505$ ) (Table 8). The percentage of students eligible for free and reduced school meals and percentage of students registered as White had a correlation of  $.375$ ,  $R^2 = .141$  and a standard error of  $4.12$  (Table 8). Neither the percentage of students eligible for free and reduced school meals nor percentage of students registered as White could be used to predict district percentage of obesity. These data show that percentage of students eligible for free and reduced school meals had a larger beta coefficient,  $.293$ , than the and percentage of students registered as White,  $-.115$ . However, Beta coefficients for both, percentage of students eligible for free and reduced school meals and percentage of students registered as White, were still not statistically significant,  $p=.447$  and  $p=.776$  respectively. These data were consistent with



previous literature, even though they were not significant, and showed as percentage of students eligible for free and reduced school meals increased so did district percentage of obesity and as percentage of students registered as White decreased percentage of district obesity increased (Moreno et al., 2013).

The findings of this study suggest that having a comprehensive and/or a strong district wellness policy may not have an impact on the percent of obesity within the school district. There are many other factors that may also play a role in the percentage of obesity within a district. Those factors may include ethnicity, SES status of the district as well as implementation or fidelity of individual school administration to follow the district wellness policy.

### **Limitations**

Although this research has started the process of filling in the gaps in the literature regarding the association between school wellness policy and percentile of obese school-aged children; there are some limitations that need to be taken into consideration and might provide opportunities for future research. The first limitation is that the data were collected from a convenience sample of only the schools that currently used the UNK BMI Report Card Web Application or had previously collected BMI percentiles for the district, which may or may not be a representative sample of the entire state of Nebraska or the US. A limitation of the percentage of students registered as White not being normally distributed might be from the lack of variance in ethnicity within the sample school districts. A positive outlook for getting beyond the convenience sample will be that according to Chapter 7 of the Nebraska Administrative code and the Nebraska Department of Health and Human Services, all schools will be required to screen for Height, Weight, BMI and BMI percentile effective July 1, 2014. This may provide future studies the data necessary to further evaluate the state of Nebraska outside of the convenience sample results given in this study.

Another limitation of this study was only evaluating the district wellness policy as opposed to the policy plus the level of implementation. Many schools may have great policies that are simply sitting on the shelves and not being implemented or not being implemented to their full extent. Also the opposite may be true, where schools are implementing great health behavior practices in their schools and the policy does not reflect these practices.

The district level data may also be a limitation to this study design. Schools do make up the school districts; however, each school is uniquely different. There are differences in SES status, percentage of ethnicity, district levels of policy interpretation as well as individual school administration policies. Identifying differences between schools within a district may allow for a better understanding towards what level of policy implementation is necessary to achieve success at combating childhood obesity.

Many school districts may be cautious about releasing individual school data because they do not want specific titles placed on individual schools. Similar to schools being targeted for not meeting academic achievement through “No Child Left Behind” schools may be concerned with being targeted based on percentage of obesity rates (Sadovnik, O'Day, Bohrnstedt, & Borman, 2013).

Parochial school districts presented another challenge in not publicly sharing data related to SES or ethnicity related to their students. These schools are unique in that they are even more concerned with their brand and how the community may label the school. These schools also do not have to follow all the same guidelines and regulations as public schools. Parochial school districts may however have an advantage when implanting specific policies and school environment practices because they have separation from public school policies that may inhibit some school environment practices.

The WellSAT is not without its limitations. Currently, there are no categories within this instrument to classify the WellSAT scores. Future research should look at evaluation categories to classify the WellSAT scores as possibly above average, average, and poor, so that schools may be able to identify what makes an above average policy. However, this may be a difficult task, since it has yet to be determined what determines

positive outcomes of a wellness policy. It could be lower percent of obesity within the district, as presented here, it could also be less days missed for sickness, higher academic achievement on testing, high fitness scores, or a number of other outcomes associated with a student being “well”.

### **Implications for Future Research**

Future research should seek to evaluate changes in the wellness policies that were developed to meet the July 1, 2006 deadlines and the newly updated policies for section 204 of the Healthy, Hunger-Free Kids Act of 2010 (HHFKA). Were policies simply written to comply with the CNRA of 2004 and no additional efforts were put towards reforming of the school environment? How do or will the new HHFKA policies lead to actual environmental changes or will the policies be put back on the shelves again?

Future research should also take a longitudinal look at changes in BMI over time after adoption of the LSW. The single cross-sectional look in the current study does not account for changes that may be taking place in the prevalence rates. Policies may not have an immediate impact on obesity prevalence but over time the policies may lead to positive outcomes. Also with the HHFKA now requiring policies to updated schools should look to evaluate changes in BMI percentile overtime.

Another area of future research that would help strengthen the literature would be to gather data on level of implementation of the LSW. School districts may have great policies, but poor implementation or the opposite and have a very vague policy and great practices in place that are not represented in their policy. The interpretation of the district level policies may be uniquely different at each school as well, finding a method to evaluate interpretation of policy would also add to future research.

If the WellSAT does not predict the percent of obesity in the school district, what outcomes will the WellSAT predict and do those outcomes lead to a healthier student body? What is the overall purpose of knowing the LSW comprehensiveness and/or the LSW strength, if they do not lead to measurable outcome improvements? The overall purpose of the WellSAT should be evaluated and possibly paired with a measurement of policy implementation. The developers of the WellSAT have acknowledged that future research opportunities may exist with the development of an implementation tool that could be paired with the current WellSAT.

## Conclusion

The purpose of this study was to examine the association between LSW and percentage of obesity in selected school districts within Nebraska. Despite the number of organizations identifying schools and particularly school environments as the smart place to start combating childhood obesity, there is little research about effective methods to address the problem of childhood obesity (Dworak, 2009; Fox et al., 2009; Fox et al., 2004; Wechsler & McKenna, 2004). This study addressed whether or not LSWs have the potential to impact percentage of obesity within a school district. Stepwise multiple regression analysis results from this study do not show an association between LSW comprehensiveness or LSW strength and district percentage of obesity.

SES and ethnicity as predictors of higher prevalence rates of obesity in schools were also investigated. Previous research has shown that lower SES schools and schools with higher percentages of non-white students is associated with higher rates of obesity (Moreno et al., 2013; Ogden et al., 2010; Richmond et al., 2014). However, the data from this study did not support these findings. The multiple regression equation analyzing percentage of students eligible for free and reduced school meals and percentage of students registered as White's association with district percentage of obesity was not significant.

Data from this study might still benefit school administrators to 1) more strategically target LSW and include implementation practices, and 2) establish partnerships with community members and universities for appropriate interventions beyond the LSW. Also, both national and state child nutrition agencies may also benefit from the outcomes of the study to 1) establish a tougher stance on the need of LSW

guidelines that go beyond just the policy itself, 2) develop school wellness practice recommendations, and 3) establish best practices for LSW to include implementation practices. Finally, the findings from this study will allow for educational opportunities to school districts about the importance of moving beyond a LSW and beginning to look at environmental practice strategies that may have an impact on district percentage of obesity.

To extend this study, a measurement of implementation at the individual school level should be added. Individual school level data may lead to a more improved look at the prevalence of obesity within a school district. Each school level administrator will have their interpretation of the LSW and will have their own implementation practices. These differences may lead to a better understanding of what is influencing childhood obesity at a local level. Creating a trusting environment with a mutual understanding of expected outcomes will be essential to research moving forward on an individual school level. School level administrators must trust that the best interest of the school and the students are the target of the research. This will call for extensive collaboration between school administration, school staff, and research coordinators.

In summary, school districts should not believe that having a LSW in place will have a positive impact on the obesity rates in the district. School administrators should look to develop LSW that will have an impact on the school environment. In accordance with the 2010 addition of Section 9A to the Richard B. Russell National School Lunch Act (NSLA)(42 U.S.C. 1758b), school districts should work to strengthen the LSW by placing an emphasis on the actual implementation of the LSW (Long, 2011). LSW should also undergo periodic reviews and receive necessary updates (Long, 2011).

Schools have the capacity to reach a large captive student population and they stand to serve a vital role in the battle against childhood obesity. Schools alone will not solve the obesity epidemic. However, it is unlikely to be reversed without strong school-based policies and school health programming.



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Table 1  
National School Meal Pattern Requirements

Grades	Breakfast Meal Pattern			Lunch Meal Pattern		
	K-5 <sup>a</sup>	6-8 <sup>a</sup>	9-12 <sup>a</sup>	K-5	6-8	9-12
Meal Pattern	Amount of Food <sup>b</sup> Per Week (Minimum Per Day)					
Fruits (cups) <sup>c,d</sup>	5 (1) <sup>e</sup>	5 (1) <sup>e</sup>	5 (1) <sup>e</sup>	2½ (½)	2½ (½)	5 (1)
Vegetables (cups) <sup>c,d</sup>	0	0	0	3¾ (¾)	3¾ (¾)	5 (1)
Dark green <sup>f</sup>	0	0	0	½	½	½
Red/Orange <sup>f</sup>	0	0	0	¾	¾	1¼
Beans/Peas (Legumes) <sup>f</sup>	0	0	0	½	½	½
Starchy <sup>f</sup>	0	0	0	½	½	½
Other <sup>f,g</sup>	0	0	0	½	½	¾
Additional Veg to Reach Total <sup>h</sup>	0	0	0	1	1	1½
Grains (oz eq) <sup>i</sup>	7-10 (1) <sup>j</sup>	8-10 (1) <sup>j</sup>	9-10 (1) <sup>j</sup>	8-9 (1)	8-10 (1)	10-12 (2)
Meats/Meat Alternates (oz eq)	0 <sup>k</sup>	0 <sup>k</sup>	0 <sup>k</sup>	8-10 (1)	9-10 (1)	10-12 (2)
Fluid milk (cups) <sup>l</sup>	5 (1)	5 (1)	5 (1)	5 (1)	5 (1)	5 (1)
Other Specifications: Daily Amount Based on the Average for a 5-Day Week						
Min-max calories (kcal) <sup>m,n,o</sup>	350-500	400-550	450-600	550-650	600-700	750-850
Saturated fat (% of total calories) <sup>n,o</sup>	< 10	< 10	< 10	< 10	< 10	< 10
Sodium (mg) <sup>n, p</sup>	< 430	< 470	< 500	< 640	< 710	< 740
Trans fat <sup>n,o</sup>	Nutrition label or manufacturer specifications must indicate zero grams of trans fat per serving.					

Note. Table adopted from Final Rule Nutrition Standards in the National School Lunch and School Breakfast Programs – Jan. 2012

<sup>a</sup>In the SBP, the above age-grade groups are required beginning July 1, 2013 (SY 2013-14). In SY 2012-2013 only, schools may continue to use the meal pattern for grades K-12.

<sup>b</sup>Food items included in each food group and subgroup and amount equivalents. Minimum creditable serving is ½ cup.

<sup>c</sup>One quarter-cup of dried fruit counts as ½ cup of fruit; 1 cup of leafy greens counts as ½ cup of vegetables. No more than half of the fruit or vegetable offerings may be in the form of juice. All juice must be 100% full-strength.

<sup>d</sup>For breakfast, vegetables may be substituted for fruits, but the first two cups per week of any such substitution must be from the dark green, red/orange, beans and peas (legumes) or “Other vegetables”.

<sup>e</sup>The fruit quantity requirement for the SBP (5 cups/week and a minimum of 1 cup/day) is effective July 1, 2014 (SY 2014-2015).

<sup>f</sup>Larger amounts of these vegetables may be served.

<sup>g</sup>This category consists of “Other vegetables”. For the purposes of the NSLP, “Other vegetables” requirement may be met with any additional amounts from the dark green, red/orange, and beans/peas (legumes) and vegetable subgroups.

<sup>h</sup>Any vegetable subgroup may be offered to meet the total weekly vegetable requirement.

<sup>i</sup>At least half of the grains offered must be whole grain-rich in the NSLP beginning July 1, 2012 (SY 2012-2013), and in the SBP beginning July 1, 2013 (SY 2013-2014). All grains must be whole grain-rich in both the NSLP and the SBP beginning July 1, 2014 (SY 2014-15).

<sup>j</sup>In the SBP, the grain ranges must be offered beginning July 1, 2013 (SY 2013-2014).

<sup>k</sup>There is no separate meat/meat alternate component in the SBP. Beginning July 1, 2013 (SY 2013-2014), schools may substitute 1 oz. eq. of meat/meat alternate for 1 oz. eq. of grains after the minimum daily grains requirement is met.

<sup>l</sup>Fluid milk must be low-fat (1 percent milk fat or less, unflavored) or fat-free (unflavored or flavored).

<sup>m</sup>The average daily amount of calories for a 5-day school week must be within the range (at least the minimum and no more than the maximum values).

<sup>n</sup>Discretionary sources of calories (solid fats and added sugars) may be added to the meal pattern if within the specifications for calories, saturated fat, trans fat, and sodium. Foods of minimal nutritional value and fluid milk with fat content greater than 1 percent milk fat are not allowed.

<sup>o</sup>In the SBP, calories and trans fat specifications take effect beginning July 1, 2013 (SY 2013-2014).

<sup>p</sup>Final sodium specifications are to be reached by SY 2022-2023 or July 1, 2022. Intermediate sodium specifications are established for SY 2014-2015 and 2017-2018.

Table 2  
*Demographics of School Districts*

District	Total Enrollment	Percent Free/Reduced <sup>a</sup>	Percent White	Percent Obesity	Policy Comp <sup>b</sup>	Policy Strength <sup>c</sup>
District A	1599	53.0	66.8	19.7	64	40
District B	316	49.7	93.4	17.1	14	0
District C	474	57.0	71.1	15.2	5	0
District D	321	43.6	96.3	17.7	50	30
District E	114	51.8	94.7	14	73	22
District F	1125	35.2	87.5	13.2	15	0
District G	254	35.0	98.0	18.3	53	14
District H	5297	40.9	83.5	13.1	67	26
District I	658	37.2	72.0	14.9	29	3
District J	36943	43.1	69.2	15.2	66	14
District K	1841	62.7	19.0	23.4	57	21
District L	305	44.3	94.4	25.9	27	0

<sup>a</sup> Percent Free/Reduced - Percentage of students eligible for free and reduced school meals

<sup>b</sup> Policy Comprehensiveness- The comprehensiveness score reflects the proportion of items within that section coded as a 1 or a 2, and are the average of the five section scores (Schwartz et al., 2009).

<sup>c</sup> Policy Strength- The strength score reflects the proportion of items coded as a 2, and are the average of the five section scores (Schwartz et al., 2009)

Table 3

*Kappa Inter-Rater Reliability*

		Rater 1			Total
		0	1	2	
Rater 2	0	463	39	6	508
	1	22	103	11	136
	2	8	33	65	106
Total		493	175	82	750

Table 4  
*Cohen's kappa Statistic*

		Value	Asymp. Std. Error	Approx. Sig.
Measure of Agreement	Kappa	.681	.025	.000
N of Valid Cases		750		



Table 5  
*Pearson Correlations*

		Percent Obesity
Percent Free/Reduced	Pearson	
	Correlation	.364
	Sig. (1-tailed)	.122
	N	12
Percent White	Pearson	
	Correlation	-.297
	Sig. (1-tailed)	.174
	N	12
Policy Comp <sup>a</sup>	Pearson	
	Correlation	-.003
	Sig. (1-tailed)	.496
	N	12
Policy Strength <sup>b</sup>	Pearson	
	Correlation	.050
	Sig. (1-tailed)	.439
	N	12

<sup>a</sup>Policy Comp- The comprehensiveness score reflects the proportion of items within that section coded as a 1 or a 2, and are the average of the five section scores (Schwartz et al., 2009).

<sup>b</sup>Policy Strength- The strength score reflects the proportion of items coded as a 2, and are the average of the five section scores (Schwartz et al., 2009)

Table 6

*Forced Entry Multiple Regression Policy Comprehensiveness and Policy Strength***Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.092 <sup>a</sup>	.008	-.212	4.4291

a. Predictors: (Constant), Policy Strength, Policy Comp

b. Dependent Variable: Percent Obesity

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.495	2	.748	.038	.963 <sup>b</sup>
	Residual	176.554	9	19.617		
	Total	178.049	11			

a. Dependent Variable: Percent Obesity

b. Predictors: (Constant), Policy Strength, Policy Comp

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.630	2.941		5.994	.000
	Policy Comp	-.023	.098	-.136	-.232	.822
	Policy Strength	.047	.170	.161	.276	.789

a. Dependent Variable: Percent Obesity

Table 7

*Forced Entry Multiple Regression Percentage of Free and Reduced and Percentage of White*

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.375 <sup>a</sup>	.141	-.050	4.1226

a. Predictors: (Constant), Percent WH, Percent Free/Reduced

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.083	2	12.542	.738	.505 <sup>b</sup>
	Residual	152.966	9	16.996		
	Total	178.049	11			

a. Dependent Variable: Percent Obesity

b. Predictors: (Constant), Percent WH, Percent Free/Reduced

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.784	12.674		1.009	.339
	Percent Free/Reduced	.134	.180	.293	.742	.477
	Percent WH	-.021	.072	-.115	-.293	.776

a. Dependent Variable: Percent Obesity

## Appendix A - School Breakfast Program Food Components

### *Grains*

- For all grade groups, schools must offer at least 1 ounce equivalent (oz eq) of grains each day.
- The minimum weekly offering varies by age-grade group: 7 oz eq for grades K-5, 8 oz eq for grades 6-8, and 9 oz eq for grades 9-12.
- *Half* of grains offered must be whole grain-rich in SY 2013-14.

### *Optional Meat/Meat Alternate*

- There is no separate requirement to offer meat/meat alternates in the new SBP meal pattern.
- Schools may offer a meat/meat alternate in place of part of the grains component *after* the minimum daily grains requirement is offered in the menu or planned breakfast. A serving 1 oz eq of meat/meat alternate may credit as 1 oz eq of grains.
- Alternately, a school may offer a meat/meat alternate as an extra food and not credit it toward any component.

### *Juice/Fruit/Vegetable*

- In SY 2013-14, there is no change to the existing Juice/Fruit/Vegetable component.
- Schools must offer at least ½ cup of fruits and/or vegetables to all age-grade groups.
- Vegetables and fruits may be offered interchangeably, there are no substitution requirements and no vegetable subgroup requirements.
- There are no limitations on juice in SY 2013-14.
- Students are not required to take fruit under OVS in SY 2013-14.

### *Fluid Milk*

- Schools must offer only fat-free (unflavored or flavored) or low-fat (unflavored) milk.
- For all age-grade groups, schools must offer at least 1 cup of milk daily.
- A variety of milk, at least two options, must be offered.

Above adopted from the Questions & Answers on the School Breakfast Program Meal Pattern in School Year 2013-14 (March 11, 2013)

<http://www.fns.usda.gov/cnd/governance/Policy-Memos/2013/SP28-2013os.pdf>

## Appendix B - Proposed Rule for Nutrition Standards for All Foods Sold in School

**Food Requirements** – According to the proposed rule, any food sold in schools must:

1. Be either a fruit, a vegetable, a dairy product, a protein food, a “whole-grain rich” grain product (50% or more whole grains by weight or have whole grains as the first ingredient), or a combination food that contains at least ¼ cup of fruit or vegetable; or
2. Contain 10% of the Daily Value (DV) of a nutrient cited as a public health concern in the 2010 Dietary Guidelines for Americans (DGA) (calcium, potassium, vitamin D, or fiber).

Additionally, foods sold must meet a range of calorie and nutrient requirements:

- Total fat must be ≤35% of calories; saturated fat must be <10% of calories; and trans fat must be 0g as stated on the label. Exemptions are provided for reduced fat cheese; nuts and nut butters without other ingredients and seafood with no added fat.
- Snack items shall contain ≤200 milligrams of sodium. For entrée items, sodium levels must be ≤480 milligrams per portion, for non- NSLP/SBP entrée items.
- For total sugar levels the proposal includes two alternatives: one is ≤35% of calories and the other is ≤35% of weight. Exemptions are provided for fruits and vegetables packed in juice or extra-light syrup and for certain yogurts.
- Snack items have a limit on calories of ≤200 calories per portion. Non- NSLP/SBP entrée items have a calorie limit of ≤350 calories.

**“Beverage Requirements** - Under the proposal, all schools may sell plain water, plain low fat milk, plain or flavored fat-free milk and milk alternatives permitted by NSLP/SBP, and 100% fruit/vegetable juice. Portion sizes of milk and juice vary by the age of students. Elementary schools may sell up to 8-ounce portions. Middle schools and high schools may sell up to 12-ounce portions.

Beyond this, the proposal offers additional beverage options in high schools. These include 20 ounce servings or less for calorie-free, flavored and/or unflavored carbonated water and other calorie-free beverages that comply with the Food and Drug Administration (FDA) standard of <5 cal/serving.

Additionally, the proposal would allow 12 ounce servings of other beverages within a specified calorie limit. The proposal offers two alternatives for this limit. The first is ≤ 40 cal/8 oz serving (or ≤ 60 cal/12 oz serving), and the second is 50 cal/8 oz serving (or 75 cal/12 oz serving).

Such beverages shall not be available in the meal service area during the meal service periods (Nutrition Standards for All Foods Sold in School, 2013).

**Appendix C - School District Memorandum of Agreement**



## UNK BMI Report Card

A web application designed for management of school-based BMI screening data and parental reporting of BMI data



### MEMORANDUM OF AGREEMENT

**The following information is a contract of agreement between University of Nebraska at Kearney and SCHOOL DISTRICT.**

This memorandum of agreement is for the use of the UNK BMI Report Card web application developed by Dr. Kate Heelan and Mr. Bryce Abbey from the University of Nebraska at Kearney (UNK). UNK is excited about the potential of sharing our BMI Report Card web application with schools throughout Nebraska. Tracking prevalence data and increasing parental awareness of BMI percentiles may play a significant role in combating childhood obesity in the state of Nebraska.

The goals of BMI screening programs in schools includes prevention and reduction of obesity in their student populations, correcting misperceptions of parents and children about the child's weight, motivating parents to make healthier choices, to work with the medical community if necessary, and to increase awareness of school administrators, teachers and other school staff of the importance of addressing obesity among students.

The Institute of Medicine has recommended that schools conduct annual assessments of each student's height and weight and body mass index (BMI) percentile and make this information available to parents. The UNK BMI Report Card web application has been designed by faculty at the University of Nebraska Kearney Human Performance Laboratory and developed by Intellicom – Intelligent Business Consultants of Kearney Nebraska. There are two major objectives of the web application:

- First, the UNK BMI Report Card web application provides school nurses with a mechanism to calculate body mass index (BMI) using students' body weight, stature, age and gender. Students' weight status is then classified based on BMI percentiles developed by the Centers for Disease Control and Prevention (CDC). School health teams may use BMI percentiles to track student's weight status over time and to merge with other health data. The web application also allows school districts to aggregate data for reports; grant applications and state based reporting.
- Second, the UNK BMI Report Card web application allows school health staff to email or print an individual report card for parents to raise awareness in

regards to child's BMI percentile, the health risks associated BMI percentile and give them resources to address their child's weight if necessary.

#### **District Resources Necessary to Use UNK BMI Report Card web application**

- Weigh and measure students using standard procedures outlined by the Nebraska Department of Health and Human Services and use valid body weight scales and height stadiometers  
([http://dhhs.ne.gov/publichealth/Pages/schoolhealth\\_guidelines.aspx](http://dhhs.ne.gov/publichealth/Pages/schoolhealth_guidelines.aspx)).
- Identify local resources for families in the area of healthy eating and physical activity. This information can be included on the BMI Report Card for parents. In addition, the district logo can be uploaded and attached on all BMI Report Cards.
- Student information must be obtained from the school enrollment officer to upload into the system; Student ID, Last Name, First Name, gender, DOB, grade, primary email addresses of parents/guardians, secondary email address of parents/guardians.
  - The web application has built-in security provided by Intellicom – Intelligent Business Consultants of Kearney Nebraska:
    - Usernames and passwords will be handled by the SQL Membership and Role provider
    - Usernames and passwords are encrypted using AES Encryption methods.
    - 2048 Bit Microsoft RSA SChannel Cryptographic Provider SSL encryption to secure the completed application and data transfer.
    - The web application is hosted on a tier four data center that is a fault-tolerant site infrastructure with electrical power storage and distribution facilities guaranteeing 99.995% availability.
    - 7 direct, high-capacity connections to the Internet from seven separate providers. The BMI Report Card's connection to the internet is burstable to provide a high level of access for high load times.
- BMI Report Cards must be printed in color or emailed to parents/guardians .

#### **UNK will provide:**

- Access to the UNK BMI Report Card web application via username and passwords. Usernames and passwords will only be provided to authorized personnel listed at the bottom of this MOA for one academic year (Aug- July).



- A user handbook and technical assistance as listed in the cost section.
- Calculations: Once height, weight, gender and date of birth are entered by the appropriate school personnel (nurse or health care services provider), the web application will calculate body mass index (BMI) and BMI percentile based off age and gender- specific percentiles provided by the Centers for Disease Control and Prevention.
- BMI Report Cards may be printed or emailed for individual students and aggregate data reports can be printed based on multiple variables (grade, gender, school, district).

**Cost of use of UNK BMI Report Card web application:**

Cost for use of the UNK BMI Report Card web application is based on size of school district. It is a requirement of use that BMI Report Cards that are printed for individual students are printed in color as to demonstrate the appropriate weight status using the colors of orange, green, yellow and red. E-mail may be used for any and all students that have a parent/guardian e-mail within the system.

Below is the cost breakdown. Payment must be issued within 30 days of this signed MOA and should be made *payable to: University of Nebraska Kearney*. Payment should be sent directly to Dr. Kate Heelan at the address listed at the bottom of the MOA.

**Included in cost: One academic year site license (August – July), training, and technical assistance.**

All BMI Report Cards must be printed in color. We recommend e-mailing them directly to parents/guardians:

Costs: **\$200 yearly** site license includes training and technical assistance for up to 4 schools. (Each additional school \$50)

All technical assistance and training will be conducted via Adobe Connect.

Both parties agree that this contract can be terminated by either party by providing 120 days written notice to the other party at the address below.

For purpose of this Agreement, each school district and UNK are independent contractors and this Agreement shall not constitute the formation of a partnership, joint venture, employment, principal/agent or master/servant relationship.

Each party agrees that it will be responsible for its own acts and the results thereof and shall not be responsible for the acts of the other party and the results thereof. Each

party therefore agrees that it will assume all risk and liability to itself, its agents or employees for any injury to persons or property resulting in any manner from the conduct of its own operations and the operations of its agents or employees under this Agreement, and for any loss, cost, or damage caused thereby during the performance of this Agreement.

This contract shall be governed by the laws of the State of Nebraska.

The parties acknowledge that, by virtue of entry into this Agreement, the parties may have access to certain information that is confidential and constitutes valuable, special and unique property. The parties agree that neither will disclose to others, use, copy or permit to be copied, without the other party's express prior written consent, except pursuant to either party's duties hereunder, any confidential or proprietary information of the other party, that is not otherwise available to the public.

The parties further agree that they must comply with obligations relating to compliance with student record confidentiality laws. The parties acknowledge and agree to comply with the Family Educational Rights and Privacy Act (FERPA) and all state and federal laws relating to the confidentiality of student records. All educational records created and maintained by the school district shall remain the property of the school district.

By signing this contract, your organization assumes all responsibilities using the UNK BMI Report Card web application as outlines this contract. Your organizations will also understand that the University of Nebraska at Kearney requires appropriate recognition in all media communication.

This contract must be signed by UNK and the District Administrator prior to receiving passwords and training.

The terms of this contract are agreed and entered into by the following:

_____	_____	_____
District BMI Coordinator	School District	Date
_____	_____	
Address	Phone	
_____	_____	_____
Name of Authorized Representative (District Superintendent)	Signature	Date

I give the UNK BMI Report Card web application developers, Dr. Kate Heelan and Mr. Bryce Abbey of the University of Nebraska Kearney permission to use aggregate data, with no identifiable information, for purposes of district/ regional and state evaluation of obesity prevalence.

\_\_\_\_\_  
Name of Authorized Representative

\_\_\_\_\_  
Signature

**For UNK**

Signature \_\_\_\_\_

Dr. Kate Heelan, Director  
Human Performance Laboratory  
University of Nebraska Kearney

Signature \_\_\_\_\_

Barbara Johnson  
Vice Chancellor for Business and  
Finance  
University of Nebraska Kearney

Please return to:

Kate Heelan, PhD, FACSM  
Professor/Director  
1410 W 26<sup>th</sup> Ave  
Kearney, NE 68849  
heelanka@unk.edu  
308-865-8180  
Fax 308-865-8073



## UNK BMI Report Card

A web application designed for management of school-based BMI screening data and parental reporting of BMI data



SCHOOL DISTRICT: \_\_\_\_\_

District contact to coordinate BMI Report Card trainings and usage:

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Address: \_\_\_\_\_

e-mail: \_\_\_\_\_ phone: \_\_\_\_\_

Names of Individuals to receive usernames and passwords (we suggest one school nurse/representative per school):

Name	School	Title	E-mail
_____	_____	_____	_____
Name	School	Title	E-mail
_____	_____	_____	_____
Name	School	Title	E-mail
_____	_____	_____	_____
Name	School	Title	E-mail
_____	_____	_____	_____
Name	School	Title	E-mail
_____	_____	_____	_____

**Included in cost: One academic year site license (August – July), training, and technical assistance. Payment is due within 30 days of the signed Memorandum of Agreement and should be made payable to the University of Nebraska Kearney and sent to Dr. Kate Heelan**

Costs: **\$200 yearly** site license includes training and technical assistance for up to 4 schools.  
(Each additional school \$50)

All technical assistance and training will be conducted via Adobe Connect.

**Please return to:**

Kate Heelan, PhD, FACSM  
Professor/Director  
heelanka@unk.edu

OR

1410 W 26<sup>th</sup> Ave, Kearney NE 68849

Bryce Abbey, MAEd  
Associate Director  
[abbeybm@unk.edu](mailto:abbeybm@unk.edu)

**Appendix D - Approval letters from University of Nebraska Lincoln Institutional Review Board and University of Nebraska Kearney Institutional Review Board**



April 11, 2014

Bryce Abbey  
Department of Nutrition and Health Sciences  
8910 Pleasant Valley Dr. Kearney, NE 68845

Lisa Franzen-Castle  
Department of Nutrition and Health Sciences  
104J LEV, UNL, 68583-0806

IRB Number: 20140413486 EX  
Project ID: 13486  
Project Title: Evaluation of weight status among Nebraska Youth

Dear Bryce:

This letter is to officially notify you of the certification of exemption of your project by the Institutional Review Board (IRB) for the Protection of Human Subjects. It is the Board's opinion that you have provided adequate safeguards for the rights and welfare of the participants in this study based on the information provided. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46) and has been classified as Exempt Category 4.

You are authorized to implement this study as of the Date of Exemption Determination: 04/11/2014.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:

- \* Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
- \* Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
- \* Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
- \* Any breach in confidentiality or compromise in data privacy related to the subject or others; or
- \* Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This project should be conducted in full accordance with all applicable sections of the IRB Guidelines and you should notify the IRB immediately of any proposed changes that may affect the exempt status of your research project. You should report any unanticipated problems involving risks to the participants or others to the Board.

If you have any questions, please contact the IRB office at 472-6965.

Sincerely,

Becky R. Freeman

Becky R. Freeman, CIP  
for the IRB





May 27, 2014

Bryce Abbey  
Department of Nutrition and Health Sciences  
8910 Pleasant Valley Dr. Kearney, NE 68845

Lisa Franzen-Castle  
Department of Nutrition and Health Sciences  
104J LEV, UNL, 68583-0806

IRB Number:  
Project ID: 13486  
Project Title: Evaluation of weight status among Nebraska Youth

Dear Bryce:

The Institutional Review Board for the Protection of Human Subjects has completed its review of the Request for Change in Protocol submitted to the IRB.

1. It has been approved to obtain percentage of obesity for school districts that already collect and evaluate BMI percentile percentages without using the UNK BMI Report Card Website. School administrators will be contacted to request the data.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:

- \* Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
- \* Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
- \* Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
- \* Any breach in confidentiality or compromise in data privacy related to the subject or others; or
- \* Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This letter constitutes official notification of the approval of the protocol change. You are therefore authorized to implement this change accordingly.

If you have any questions, please contact the IRB office at 472-6965.



Sincerely,

Becky R. Freeman

Becky R. Freeman, CIP  
for the IRB





Institutional Review Board  
University of Nebraska at Kearney  
Founders Hall Room 2114  
Kearney, NE 68849  
Ph: (308) 865-8843  
Fax: (308) 865-8837

September 6, 2012

Kate Heelan, Ph.D.  
Department of Health, Physical Education, Recreation, and Leisure Studies  
University of Nebraska at Kearney

IRB # 090612-1

TITLE OF PROPOSAL: Evaluation of weight status among Nebraska Youth

Dear Dr. Heelan:

The IRB has reviewed your proposal for the above-titled research project. According to the information provided this study is Exempt under 45 CFR 46:101(b)(4). You are authorized to begin the research.

It is understood this project will be conducted in full accordance with all applicable sections of the IRB Guidelines. It is also understood that the IRB will be immediately notified of any proposed changes that may affect the Exempt status of your research project.

Sincerely,

A handwritten signature in cursive script that reads "Kathryn M Zuckweiler".

Kathryn M. Zuckweiler, Ph.D.  
Director, IRB

kmz/js

## **Appendix E - Recruitment Email to School District Administrators**

Dear School Administrator,

Your school district has been invited to participate in a data collection project being conducted by the Nutrition and Health Sciences Department at the University of Nebraska-Lincoln. The project involves the collection of percentage of obesity for Nebraska elementary schools. The data collection will be part of a dissertation examining the association between local school wellness policy and percentage of obesity in school districts within Nebraska.

We would greatly appreciate your support of this project by encouraging your school nurse or similar staff to share this data (percentage of obesity) with the project coordinator, if it was collected during the 2013-2014 school year.

Please note that your school's participation in this project is voluntary and no individual-level personal identification, such as students' name, will be requested. Also, your school district will not be connected to the data in any way.

We would like to thank you in advance for your school district's participation in this project. If you have any questions, please contact the lead researcher, Bryce Abbey, at [abbeybm@unk.edu](mailto:abbeybm@unk.edu) or 308-865-8177.

Sincerely,

Bryce Abbey  
PhD Candidate  
University of Nebraska-Lincoln  
Nutrition and Health Sciences Department

## Appendix F - School Wellness Policy Evaluation Tool

### SCHOOL WELLNESS POLICY EVALUATION TOOL

Developed by the Robert Wood Johnson Foundation  
Healthy Eating Research Program, Working Group 1

**Chair:** Marlene B. Schwartz, Ph.D. (Connecticut)

**Members:** Anne Lund, M.P.H., R.D. and Mollie Greves, M.D., M.P.H.  
(Washington)

Elaine McDonnell, M.S., R.D. and Claudia Probart, Ph.D., R.D.  
(Pennsylvania)

Anne Samuelson, M.P.H. and Leslie Lytle, Ph.D., R.D.  
(Minnesota)

The School Wellness Policy Evaluation Tool provides a standard method for the quantitative assessment of school wellness policies. Such policies have been required since 2006 in all school districts participating in the National School Lunch Program. This tool offers a consistent and reliable means of assessing the comprehensiveness and strength of school wellness policies within or among states. It was developed by researchers funded by the Robert Wood Johnson Foundation.

## **How to use the School Wellness Policy Evaluation Tool**

How to Rate Policy Statements.....	3
How to Score School Wellness Policies .....	4

### **Rating Guidance**

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Section 3: Nutrition Standards for Competitive and Other Foods and Beverages .....	16
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<b>School Wellness Policy Score Sheet .....</b>	<b>52</b>
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## How to Rate Policy Statements

School wellness policies are evaluated based on the degree to which they address 50 policy items, which are categorized into five sections. The sections include Nutrition Education and Wellness Promotion, Standards for USDA Child Nutrition Programs and School Meals, Nutrition Standards for Competitive and Other Foods and Beverages, Physical Education and Physical Activity, and Evaluation.

For each of the 50 policy items, school wellness policy statements are to be rated “0,” “1,” or “2,” using the definitions below. This evaluation tool lists each policy item followed by an explanation of the item and examples of “1,” “2,” “3,” and “4” statements. Ratings of “3” and “4” apply only to specific questions in Section 3: “Nutrition Standards for Competitive and Other Foods and Beverages”

Rating		Explanation
0	<b>= Not Mentioned</b>	The item is not included in the text of the policy.
1	<b>= Weak Statement</b>	Assign a rating of “1” when the item is mentioned, <i>but</i> : The policy will be hard to enforce because the statement is <i>vague, unclear, or confusing</i> . Statements are listed as <i>goals, aspirations, suggestions, or recommendations</i> . There are <i>loopholes</i> in the policy that weaken enforcement of the item. The policy mentions a <i>future plan to act</i> without specifying when the plan will be established. Words often used include: <i>may, can, could, should, might, encourage, suggest, urge, some, partial, make an effort, and try</i> .
2	<b>= Meets / Exceeds Expectations</b>	Assign a rating of “2” when the item is mentioned, and it is clear that the policy makers are committed to making the item happen because: The item is described using specific language (e.g., a concept followed by concrete plans or strategies for implementation). Strong language is used to indicate that action or regulation is required, including: <i>shall, will, must, have to, insist, require, all, total, comply and enforce</i> . A district is unable to enforce an item (e.g., teachers role modeling healthy behaviors), but the goal is clearly stated (e.g., “shall encourage teachers to role model healthy behaviors”).
3	<b>= Meets IOM standard</b>	Assign a rating of “3” when nutrients in foods and or beverages meet IOM standards.
4	<b>= School instituted ban</b>	Assign a rating of “4” when the item ban is mentioned.

**Evaluating Hint:** One method for deciding between a rating of “1” and a “2” is to consider the scenario of a parent approaching a school district’s board of education to discuss an issue. If the policy is ambiguous on how the school should handle the issue at hand, rate the item as “1.” If the written policy gives clear guidance about how to decide whether the school complies with the policy, rate the item as “2.”

**State law** may regulate items in this evaluation tool. State law supersedes the authority of school wellness policies, so unless otherwise indicated, rate items according to the strength of state law when state law exceeds standards in a policy or when state law mentions items not included in a

policy. For example, if state law prohibits soda in schools but the policy does not; rate applicable items as if the policy explicitly prohibits soda.

### How to Score School Wellness Policies

The WellSAT will give you two scores: a **comprehensiveness** score, which reflects the extent to which recommended content areas are covered in the policy; and a **strength** score, which describes how strongly the content is stated. Both scores range from 0-100, with lower scores indicating less content and weaker language, and higher scores indicating more content and use of specific and directive language.

Score	Explanation
Comprehensiveness Score by section	Comprehensiveness is calculated by counting the number of items in each section rated as "1" or "2," dividing this number by the number of policy items in the section, and multiplying this number by 100.
Strength Score by section	Strength is calculated by counting the number of items in each section rated as "2," dividing this number by the number of policy items in the section, and multiplying this number by 100.
Total Comprehensiveness	Total comprehensiveness is calculated by counting the number of items rated as "1" or "2," dividing this number by the total number of policy items (50) in all five sections, and multiplying this number by 100.
Total Strength	Total strength is calculated by counting the number of items rated as "2," dividing this number by the total number of policy items (50) in all five sections, and multiplying this number by 100.

The example below shows the calculation of sample scores for Section 1.

Section 1. Nutrition Education		Rating
NEW P1	Nutrition curriculum provided for each grade level.	0
NEW P2	Links nutrition education with the school food environment.	1
NEW P3	Nutrition education teaches skills that are behavior-focused.	2
NEW P4	Encourages staff to be role models for healthy behaviors.	1
NEW P5	Specifies district using Centers for Disease Control and Prevention's (CDC) Coordinated School Health Program (CSHP) model or other coordinated/comprehensive method.	0
NEW P6	Specifies how district will engage parents, students or community to provide information and hear feedback to meet district wellness goals.	0
NEW P7	Specifies marketing to promote healthy choices.	1
NEW P8	Specifies restricting marketing of unhealthful choices..	0
NEW P9	Establishes a health advisory committee or school health council that is ongoing beyond policy development.	2
Subtotal for Section 1 Nutrition Education	Comprehensiveness Score <i>Count the number of items rated as "1" or "2" and divide this number by 9. Multiply by 100. Do not count an item if the rating is "0."</i>	56
	Strength Score <i>Count the number of items rated as "2" and divide this number by 9. Multiply by 100.</i>	22

**Comprehensiveness Score** = Three items are rated as "1" and two items are rated as "2," for a total of 5 items. Five divided by 9 equals 0.56, multiplied by 100 for a score of 56.

**Strength Score**= Two items are rated as "2." Two divided by 9 equals 0.22, multiplied by 100 for a score of 22.

In Section 3, item responses may vary if regulations are specific to elementary, middle and high schools. You can assign a score for each grade level. The final score for the item will be the average of the three responses given. Averages should be rounded up. Also in Section 3, several items are scored on a scale of 0-4. Items receiving a rating of "3" or "4" will be considered a rating of "2" for scoring purposes.



Section 1. Nutrition Education and Wellness Promotion		
#	Item	Rating Guidance
NEWP1	Provides nutrition curriculum for each grade level.	<p><b>0</b></p> <p><b>For this item, integrating nutrition education into other subjects beyond health education does NOT qualify for a "1" or "2."</b></p> <p><b>Not mentioned</b></p> <p>Mentions "standards-based nutrition education" without mentioning curriculum/program.</p> <p>Addresses a "wellness curriculum" or health education curriculum without including nutrition/healthy eating as part of the curriculum components.</p>
		<p><b>1</b></p> <p><b>Weak statement</b></p> <p><b>Describes general health curriculum for "K-12" or "all levels," and/or is unclear if each grade will receive nutrition education.</b></p> <p><b>Example:</b></p> <p>"Enable students, through a comprehensive curriculum, to acquire the knowledge and skills necessary to make healthy food choices for a lifetime." (Not clear that nutrition education is actually taught at each grade level.)</p> <p>"Nutrition and physical activities lessons will be designed for integration into the curriculum and the health education program."</p>
		<p><b>2</b></p> <p><b>Meets or Exceeds Expectations</b></p> <p>Clear that district has a nutrition education curriculum in each grade.</p> <p><b>Example:</b></p> <p>"Nutrition topics shall be integrated within the comprehensive health education curriculum and taught at every grade level (K-12)."</p>

		0	Not mentioned
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NEWP2	Links nutrition education with the school food environment	1	<b>Vague and/or suggested</b> <b>Example:</b> "The entire school environment, not just the classroom, shall be aligned with healthy school goals to positively influence a student's understanding, beliefs, and habits as they relate to good nutrition and regular physical activity."
		2	<b>Requires that nutrition education be integrated into the larger school environment in concrete ways.</b> <b>Example:</b> "The nutrition education program shall work with the school meal program to develop school gardens and use the cafeteria as a learning lab."
NEWP3	Nutrition education teaches skills that are behavior-focused.	0	<b>Not mentioned, or only addresses knowledge acquisition</b>
		1	<b>Any of the following:</b> Skill-based nutrition education is suggested. Specific behavioral skills are mentioned, but none are required. Skill-based health education is suggested outside of the nutrition education section of the policy. <b>Examples:</b> "All students should have the skills necessary to make nutritious food choices." "Students will receive nutrition education that fosters the adoption and maintenance of healthy eating behaviors."
		2	<b>Either of the following:</b> Skill-based nutrition education is required. Specific skills or activities are identified and required (e.g., media awareness, menu planning, reading nutrition facts labels). <b>Examples:</b> "Nutrition education will incorporate lessons helping children acquire skills for reading food labels and menu planning." "Schools will provide nutrition education lessons that cover topics such as reading a Nutrition facts label."
Section 1. Nutrition Education and Wellness Promotion ( <i>continued</i> )			
#	Item	Rating Guidance	
NEWP4		0	<b>Not mentioned</b>

	Encourages staff to be role models for healthy behaviors.	1	<b>Suggests that staff should be encouraged to model healthy behavior</b> <b>Example:</b> "Each school in the district should encourage staff to model..."
		2	<b>Requires that staff shall be encouraged to model healthy behavior</b> <b>Example:</b> "Staff will be encouraged to model healthy eating and physical activity as a valuable part of daily life."
NEWP5	Specifies district using the Centers for Disease Control and Prevention's (CDC) Coordinated School Health Program model or other coordinated/comprehensive method	0	<b>Not mentioned</b>
		1	<b>Mentions that district is considering or working toward use of a coordinated school health model</b> <b>Example</b> "We will strive toward integrating nutrition into a coordinated school health approach."
		2	<b>Includes language to institutionalize a coordinated school health model</b> <b>Example:</b> "Schools will link nutrition education activities with the coordinated school health program."

NEWP6	Specifies how district will engage families to provide information and/or solicit input to meet district wellness goals (e.g., through website, e-mail, parent conferences, or events).	0	<b>Not mentioned</b>
		1	<b>Any of the following:</b> Methods are vague. Specific methods are mentioned, but not required. Specific methods are mentioned, but it is unclear if the school will engage families. <b>Examples:</b> "Nutrition information and links to relevant resources in the community should be provided to families through newsletters, publications, health fairs, and other channels." "Feedback from parents should be encouraged through stakeholder meetings."
		2	<b>Meets or Exceeds Expectations</b> Clear that the district or schools will engage families, and specific methods are listed. Even if it is unclear that each method listed will be used, as long as engagement is required, rate as "2." <b>Examples:</b> "Nutrition education will be provided to parents in the form of handouts, the school website, articles and information provided in district or school newsletters, presentations that focus on nutrition and healthy lifestyles, and through any other appropriate means available to reach parents." "The school will consider student needs in planning for a healthy school nutrition environment. Students will be asked for input and feedback through the use of student surveys and attention will be given to their comments." "The food service director will be available to speak with parents during open house." "Parents will be provided the opportunity to give feedback on wellness goals."

NEWP7	Specifies marketing to promote healthy choices.	0	<b>Not mentioned</b>
		1	<b>Vague and/or suggested</b> <b>Example:</b> "It is recommended that organizations operating concessions at school functions market healthy food choices at a lower profit margin to encourage student selection."
		2	<b>Specific (posters, pricing structures, etc.) and required</b> <b>Example:</b> "Schools shall label/mark healthy food items available so students know which are healthy items." "The healthiest choices, such as salads and fruit, will be prominently displayed in the cafeterias to encourage students to make healthy choices." "Healthy food options will be comparably priced."
NEWP8	Specifies restricting marketing of unhealthful choices	0	<b>Not mentioned</b>
		1	<b>Weak Statement</b> Restrictions are suggested or weakened by exceptions such as time, location, or a principal's discretion. <b>Example:</b> "Display and advertising of foods with minimal nutritional value is strongly discouraged on school grounds."
		2	<b>Required</b> <b>Examples:</b> "Education materials shall be free of brands and illustrations of unhealthful foods." "Soft drink logos are not allowed on school materials or on school property."

NEWP9	Establishes an advisory committee to address health and wellness that is ongoing beyond policy development.	0	<b>Not mentioned</b>
		1	<b>Suggested and/or not clear that the committee will be ongoing</b> <b>Example:</b> "A wellness policy committee will be formed in district XYZ."
		2	<b>Committee is required and clearly ongoing</b> <b>Examples:</b> "The Nutrition and Physical Activity Advisory Council shall include (stakeholders) and shall meet a minimum of two times annually to monitor and evaluate the implementation of the policy." "The school district will create, strengthen, or work within existing school health councils to develop, monitor, review, and revise nutrition and physical activity policies. The councils will serve as resources to school sites for implementing these policies."

## Section 2. Standards for USDA Child Nutrition Programs and School Meals

#	Item	Rating Guidance	
US1	Addresses access to and/or promotion of the School Breakfast Program (USDA).	0	<b>Not mentioned</b> Informing parents about the School Breakfast Program does NOT qualify for a "1" or "2."
		1	<b>Either of the following:</b> Promotes a breakfast program without specifying the "School Breakfast Program" (USDA) or CFR Part 220. Encourages or suggests participation in the School Breakfast Program. <b>Examples:</b> "The district shall make every effort to offer school breakfast." "The district shall operate under USDA regulations for school food programs (e.g., School Breakfast Program, National School Lunch Program, Special Milk Program, and Summer Food Service Program)."
		2	<b>Meets or Exceeds Expectations</b>

		<p>Includes language to institutionalize the School Breakfast Program (e.g., specific reference to School Breakfast Program or CFR Part 220).</p> <p><b>Example:</b></p> <p>"All schools will provide breakfast through the USDA School Breakfast Program."</p>
US2	<p>Addresses nutrition standards for school meals beyond USDA (National School Lunch Program / School Breakfast Program) <a href="#">minimum standards</a>.</p> <p>Note: USDA "school meals" include beverages served with the meal.</p>	<p><b>Note: U.S. Department of Health and Human Services (HHS) and U.S. Department of Agriculture (USDA) Dietary Guidelines for Americans exceed the minimum standards for the USDA school meals programs.</b></p> <p><b>Any of the following:</b></p> <p>Not mentioned.</p> <p>Unless defined, ambiguous references to federal or USDA standards/guidelines/requirements (e.g., "federal nutrition standards," "USDA standards," or "USDA guidelines") do NOT qualify for "1" or "2" because it is not clear that these standards refer to anything other than the minimum legal requirements for USDA school meals programs. "Striving to meet" or "should meet" the Dietary Guidelines does not qualify for a 1 or 2.</p> <p>Exploring increased use of whole grains or exploring including salads, yogurts and other healthy foods to the meal menu.</p> <p>0</p> <p><b>Either of the following:</b></p> <p>Vague and/or suggested.</p> <p>Specifies meeting the Dietary Guidelines for Americans and no other standards. To receive a "1" for specifying the Dietary Guidelines for Americans, a policy must at least state, "Dietary Guidelines."</p> <p><b>Examples:</b></p> <p>"Encourage the consumption and choice of nutrient-dense food, such as whole grains, fruits, and vegetables."</p> <p>"Should assist students to comply with the Dietary Guidelines for Americans."</p> <p>"...all meals will follow the food guide system developed by USDA"</p> <p>"...all foods sold/served on campus will meet USDA Dietary Guidelines" (and no other mention about school meal programs in the policy that would alter the coding for this item)</p> <p>"School meals promote fresh fruits, vegetables, whole grains, and low-fat items"</p> <p>1</p> <p><b>Meets or Exceeds Expectations</b></p> <p>School meals are required to meet specific standards (e.g., 4 fruits and/or non-fried vegetables per day; only 1% and fat-free white milk served; at least half of grains are whole grain; eliminates trans fats, using low fat versions of foods or low-fat cooking methods).</p> <p><b>Example:</b></p> <p>2</p>

			"Milk sold as part of the school meals program will be limited to 1%, and skim, with no chocolate milk being served."
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## Section 2. Standards for USDA Child Nutrition Programs and School Meals *(continued)*

#	Item	Rating Guidance
US3	Specifies strategies to increase participation in school meal programs. ("School meal programs" can be assumed to refer to breakfast and/or lunch.)	<b>0</b> <b>Not mentioned</b> Notifying parents of eligibility requirements for free and reduced price meals is a federal requirement and does NOT qualify for "1" or "2."
		<b>1</b> <b>Mentions vague and/or suggested strategies</b> <b>Example:</b> "School meals shall be made attractive to students by appealing to their taste preferences." "Meals shall be appealing..." "...bus schedules should be arranged to facilitate participation in the school breakfast program." "The district has a closed campus policy unless the Principal provides permission for students to leave during the lunch period." "To the extent possible, school and transportation schedules shall be designed to encourage participation in school meal programs."
		<b>2</b> Requires specific strategies such as promotional mailings or events, alternative breakfast systems, altered bus schedules, closed campus, student input on the menu, or "Grab and Go" or "Fun on the Run" promotions. <b>Examples:</b> "Students will have the opportunity to provide input on local, cultural, and ethnic favorites." "Shall provide periodic food promotions to encourage taste testing of healthy new foods being introduced on the menu." "Morning bus routes will be scheduled to allow students to arrive at school in time to eat breakfast." "Students are prohibited from leaving campus for lunch."

## Section 2. Standards for USDA Child Nutrition Programs and School Meals *(continued)*

#	Item	Rating Guidance	
US4	Ensures adequate time to eat.	0	<b>Not mentioned</b>
		1	<b>Vague and/or suggests a specific amount of time</b> <b>Examples:</b> "Schools are encouraged to permit all full-day students a daily lunch period of not less than 20 minutes." "Personnel will schedule enough time so students do not have to spend too much time waiting in line."
		2	<b>Meets or Exceeds Expectations</b> Requires meal periods to include at least 20 minutes for lunch and, if time for breakfast is mentioned, at least 10 minutes for breakfast. <b>Examples:</b> "After obtaining food, students will have at least 20 minutes to eat lunch." "Students will be provided adequate time (minimum of 20 minutes) to eat lunch." "The school district will provide students with a minimum of 20 minutes to eat their meals."
US5	Ensures nutrition training for food service director and/or onsite manager (or other person responsible for menu planning).	0	<b>Not mentioned or only mention food safety training</b>
		1	<b>Any of the following:</b> Vague and/or suggested. Professional development offered, but unclear if nutrition is covered. Training encouraged for food service director only (works off-site) <b>Example:</b> "All food service personnel will have adequate training in food service operations." "Professional development training will be offered for all interested faculty and staff."
		2	<b>2 - Nutrition training is specified for onsite manager and/or the food service director.</b> <b>Example:</b> "Shall ensure that professional development in the area of food and nutrition is provided for food service managers and staff."

## Section 2. Standards for USDA Child Nutrition Programs and School Meals *(continued)*

#	Item	Rating Guidance	
US6	Addresses school meal environment.	0	<b>Not mentioned</b>
		1	<b>Vague and/or suggested.</b> <b>Example:</b> "...will strive to make the cafeteria a pleasant environment for meals."
		2	<b>Meets or Exceeds Expectations</b> Requires specific strategies (ensures adequate space/seating, supervision, a clean, pleasant environment, etc.) <b>Examples:</b> "Appropriate supervision shall be provided in the cafeteria and rules for safe behavior shall be consistently enforced." "Students shall be provided a pleasant environment in which to eat lunch."
US7	Nutrition information for school meals (e.g., calories, saturated fat, sugar) is available.	0	<b>Not mentioned</b>
		1	<b>Either of the following:</b> Vague and/or suggested. Only available upon request. <b>Example:</b> "Will provide nutrition information to parents upon request."
		2	<b>Specific and required</b> <b>Example:</b> "Will share and publicize information about the nutritional content of meals with students and parents."

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages

**Note:** This section relates to sale or service of foods outside USDA school meals. Do not count provisions in the USDA school meals section of the policy for items in this section. If a school wellness policy contains a statement regulating “all foods” at school, and it is unclear from the context of the policy whether the statement applies to competitive foods or USDA school meals, apply the statement to this section (Nutrition Standards for Competitive and Other Foods and Beverages) and to section 2 (Standards for USDA Child Nutrition Programs and School Meals).

Some policies regulate foods “served” at school, while others only regulate foods “sold” at school. The distinction between “served” and “sold” is that “served” includes both foods that are “sold” and foods that are distributed without cost, such as foods served at birthday parties. Most items in this section refer to foods sold, but some refer to the broader category of foods served.

For a policy to receive a minimum default rating for mentioning U.S. Department of Health and Human Services (HHS) and U.S. Department of Agriculture (USDA) Dietary Guidelines for Americans, the policy must state “Dietary Guidelines.”

A regulation with a time exception is one that only applies during certain hours (e.g., when class is in session or during lunch).

A regulation with a location exception is one that only applies to certain places or grade levels (e.g., in cafeteria or middle school).

**Note:** Item responses may vary if regulations are specific to elementary, middle and high schools. You can assign a score for each grade level. The final score for the item will be the average of the three responses given, rounded up.

#	Item	
NS1	Regulates vending machines	N/A
		<b>Our school district does not have this grade level</b>
		<b>Either of the following:</b> No mention of vending machine regulations or no umbrella statement regulating "all foods", "competitive foods" or "foods served outside USDA meals". Only mention efforts to minimize sale of Foods of Minimal Nutritional Value.
		<b>Any of the following:</b> Vending machine regulations or umbrella statement regulating "all (competitive) foods" is vague, suggested, time- or location- specific, subject to principal's discretion, or weakened by other exceptions. The 2005 Dietary Guidelines for Americans and no other standards are mentioned to regulate vending machines or "all (competitive) foods." Regulations only apply to a very limited group of foods (e.g., prohibiting Foods of Minimal Nutritional Value in vending machines). Mentions only state guidelines regulating vending machine sales (and does not clarify what the state guideline is). Restrictions only apply to a percentage of food and/or beverage items or a limited set of items (e.g., fat content and soda). Mentions regulating food and beverages in vending machines without specifying guidelines or mentions plans to create guidelines. <b>Examples:</b>

		<p>"Vending machines shall include items which are healthful."</p> <p>"Vending machines shall be unplugged during lunch hour."</p> <p>"Vending machine sales are in accordance with the state Public School Nutrition Policy."</p> <p>"Food and beverage sales in vending machines will support healthy eating."</p> <p>"All food and beverages sold will strive to support the district's healthy eating guidelines."</p> <p>"The sale of food items during the school day shall be restricted to those items in categories of food that meet minimal nutritional value."</p> <p>"The district shall consider sugar content, fat content, portion size, and lack of nutrients in all food and beverages sold or served to students."</p> <p>"A minimum of 75% of food and beverages sold in vending machines must meet district nutrition standards."</p> <p>"A minimum of 20% of snacks in vending machines, school stores, concession, and a la carte will be considered healthy snack offerings."</p> <p>"Nutrition guidelines that require the use of products that are high in fiber, low in added fats, sugar, sodium, and served in appropriate portion sizes consistent with USDA standards shall be established for all foods offered by the district's nutrition services department or contracted vendors."</p> <p>"The district shall monitor all food and beverages sold or served to students."</p>
		<p><b>Any of the following:</b></p> <p>Regulate nutritional quality of ALL items sold (e.g., regulating maximum calorie, sugar, and saturated fat content of ALL items sold);</p> <p>Provide a specific and restricted list of food items allowed to be sold in vending machines or at all times (e.g., limiting vending to only water, fruits, vegetables, whole grains, and nuts);</p> <p>Prohibit a comprehensive list of unhealthy foods (e.g., baked goods, sweetened beverages, and candy) in vending machines or at all times.</p> <p><b>Examples:</b></p> <p>Foods sold through vending machines shall be limited to water, 100% juice, and fresh fruits and/or vegetables.</p> <p>All items sold through vending machines shall contain no more 35% of total calories from fat and sugars and no trans fats.</p>
		<p><b>Bans vending machines or bans all competitive foods</b></p> <p><b>Examples:</b></p> <p>The sale of food and beverages is limited to those sold through the school meal program. Vending machines are prohibited on school grounds.</p>

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance
NS2	. Regulates school stores. Note: If policy only mentions concessions or snack bars, do not code for school stores, unless policy defines concessions and/or snack bars as including school stores.	<p><b>N/A</b></p> <p><b>Note: If policy regulates "all foods" or "competitive foods," rate according to the strength of that statement. Our school district does not have this grade level</b></p>
		<p><b>0</b></p> <p><b>Either of the following:</b> No mention of school store regulations or no umbrella statement regulating "all foods", "competitive foods" or "foods served outside USDA meals". Efforts to minimize sale of Foods of Minimal Nutritional Value</p>
		<p><b>1</b></p> <p><b>Any of the following:</b> School store regulations or umbrella statement regulating "all (competitive) foods" is vague, suggested, time- or location- specific, subject to principal's discretion, or weakened by other exceptions. The 2005 Dietary Guidelines for Americans and no other standards are mentioned to regulate school stores or "all (competitive) foods." Regulations only apply to a very limited group of foods (e.g., prohibiting Foods of Minimal Nutritional Value in school stores). Restrictions only apply to a percentage of food and/or beverage items or a limited set of items (e.g., fat content and soda). Language such as: "The district shall monitor all food and beverages sold or served to students, including those available outside of the federally regulated child nutrition programs (i.e., a la carte, vending, student stores, rewards, fundraising, etc.). Any language such as "...should strive to sell healthy food and beverages in school stores." <b>Examples:</b> "...ensure some healthy options are sold at school stores." "Sales of food and beverages in school stores must comply with state Public School Nutrition Policy." "...school stores shall strive to include healthy choices for sale..." "All food and beverages sold will strive to support the district's healthy eating guidelines." "The sale of food items during the school day shall be restricted to those items in categories of food that meet minimal nutritional value." "The district shall consider sugar content, fat content, portion size, and lack of nutrients in all food and beverages sold or served to students." "...50% of food and beverages sold in stores must meet the district nutrition standards."</p>

				<p>"Nutrition guidelines that require the use of products that are high in fiber, low in added fats, sugar, sodium, and served in appropriate portion sizes consistent with USDA standards shall be established for all foods offered by the district's nutrition services department or contracted vendors."</p>
			2	<p><b>Any of the following:</b>  Regulate nutritional quality of each individual item sold (e.g., regulating maximum calorie, sugar, and saturated fat content of ALL items sold).  Provide a specific and restricted list of food items allowed to be sold in school stores or at all times (e.g., limiting food sales to only water, fruits, vegetables, whole grains, and nuts).  Provide a comprehensive list of prohibited unhealthy foods (e.g., baked goods, sweetened beverages, and candy) in school stores or at all times.  <b>Examples:</b>  Foods sold through school stores shall be limited to water, 100% juice, and fresh fruits and/or vegetables.  All items sold through school stores shall contain no more 35% of total calories from fat and sugars and no trans fats.</p>
			3	<p><b>Bans food/beverage sales in school stores or there is a competitive food ban</b>  <b>Examples:</b>  The sale of food and beverages is limited to those sold through the school meal program.  District XYZ does not allow food/beverages to be sold at school stores.</p>

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating	Guidance
NS3	Regulates food service a la carte OR food sold as an alternative to the reimbursable school meal program (if not defined as to what this means).	N/A	<p>Note: If policy regulates "all foods" or "competitive foods," rate according to the strength of that statement. If the policy addresses food and/or beverage sold by food service program /child nutrition programs, etc., but the policy is silent on a la carte, give credit for a la carte.</p> <p><b>Our school district does not have this grade level</b></p>
		0	<p><b>Either of the following:</b>            No mention of a la carte regulations or no umbrella statement regulating "all foods", "competitive foods" or "foods served outside USDA meals".            Efforts to minimize sale of Foods of Minimal Nutrition Value</p>
		1	<p><b>Any of the following:</b>            A la carte regulations or umbrella statement regulating "all (competitive) foods" is vague, suggested, or weakened by exceptions such as a time, location, or a principal's discretion.            The 2005 Dietary Guidelines for Americans and no other standards are mentioned to regulate food service a la carte or "all (competitive) foods."            Restrictions only apply to a percentage of food and/or beverage items or a limited set of items (e.g., fat content and soda, for example).            Language such as: "The district shall monitor all food and beverages sold or served to students, including those available outside of the federally-regulated child nutrition programs (i.e., a la carte, vending, student stores, etc.)."            Language such as: "...should strive to sell healthy a la carte food and beverages.            Mentions regulating a la carte/all food and beverages without specifying guidelines or mentions plans to create guidelines.  <b>Examples:</b>            "All food and beverages sold will strive to support the district's healthy eating guidelines."            "Food service shall strive to include some healthy choices for all a la carte food sales" (and lists them).            "The sale of food items during the school day shall be restricted to those items in</p>



				<p>categories of food that meet minimal nutritional value."</p> <p>"The district shall consider sugar content, fat content, portion size, and lack of nutrients in all food and beverages sold or served to students."</p> <p>"...50% of a la carte food and beverage items must meet district nutrition standards."</p> <p>"Nutrition guidelines that require the use of products that are high in fiber, low in added fats, sugar, sodium, and served in appropriate portion sizes consistent with USDA standards shall be established for all foods offered by the district's nutrition services department or contracted vendors."</p>
			2	<p><b>Any of the following:</b></p> <p>Regulate nutritional quality of ALL a la carte items sold (e.g., regulating maximum calorie, sugar, or saturated fat content of ALL items sold).</p> <p>Provide a specific and restricted list of food items allowed to be sold a la carte or at all times (e.g., limiting food sales to only fruits, vegetables, and whole grains).</p> <p>Provide a comprehensive list of prohibited unhealthy foods (e.g., baked goods, sweetened beverages, and candy) a la carte or at all times.</p> <p><b>Examples:</b></p> <p>A la carte food and beverage sales shall be limited to water, 100% juice, and fresh fruits or vegetables.</p> <p>All items sold through school stores shall contain no more 35% of total calories from fat and sugars and no trans fats.</p>
			3	<p><b>Bans a la carte food sales or there is a competitive food ban</b></p> <p><b>Examples:</b></p> <p>The sale of food and beverage is limited to those sold through the school meal program.</p> <p>District XYZ does not allow a la carte food/beverage sales.</p>

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance	
NS4	Regulates food served at class parties and other school celebrations.	N/A	<b>Our school district does not have this grade level</b>
		0	<b>Not mentioned</b>
		1	<p><b>Any of the following:</b></p> <p>Regulation for class parties or umbrella statement regulating "all (competitive) foods" served at school is vague, suggested, or weakened by exceptions such as time, location, or a principal's discretion.</p> <p>The 2005 Dietary Guidelines for Americans and no other standards are mentioned to regulate class parties or "all (competitive) foods served." Regulations only apply to a very limited group of foods (e.g., prohibiting Foods of Minimal Nutritional Value at all times).</p> <p>Regulations for class parties are required but weakened (e.g., by allowing one traditional party food).</p> <p><b>Examples:</b></p> <p>"District encourages healthy snacks at parties."</p> <p>"Celebrations involving food during the school day shall be at the discretion of the school principal."</p> <p>"The school food environment (including celebrations) on balance and over time should be consistent with healthy food guidelines."</p> <p>"...permits only one birthday party per month."</p> <p>"The district shall provide parents with a list of foods that meet the Board's snack standards for healthy celebrations/parties, rewards, and fundraising activities" (and no other mention of celebrations/parties included in the policy)</p> <p>"The district should regulate all food and beverages sold/served as part of classroom activities."</p> <p>"Classroom parties will offer minimal amounts of foods (maximum 2-3 items) that contain added sugar as the first ingredient and will provide the following: fresh fruits and vegetables, water, 100% fruit juice or milk"</p> <p>"Classroom parties, celebrations, etc. shall be limited to one snack and one beverage (100% juice, water, or milk)."</p> <p>"The district shall consider sugar content, fat content, portion size, and lack of nutrients in all food and beverages sold or served to students."</p> <p>"Nutrition guidelines that require the use of products that are high in fiber, low in added fats, sugar, sodium, and served in appropriate portion sizes consistent with USDA standards shall be established for all foods offered by the district's nutrition services department or contracted vendors."</p>

		2	<p><b>Any of the following:</b></p> <p>Regulate nutritional quality of each individual item served/distributed/available at class parties (e.g., regulating maximum calorie, sugar, or saturated fat content of ALL items).</p> <p>Provide a specific and restricted list of food items allowed to be served/distributed/available at class parties or at all times (e.g., limiting to fruits and whole grains).</p> <p>Prohibit a comprehensive list of unhealthy foods (e.g., baked goods, sweetened beverages, and candy) from being served/distributed/available at class parties/celebrations or at all times.</p> <p><b>Example:</b></p> <p>"Foods and beverages served at school celebrations must meet the District's Nutritional Standards," (and standards are defined).</p>
		3	<p><b>No Food Allowed at Class Celebrations or there is a competitive food ban</b></p> <p><b>Example:</b></p> <p>"Classroom celebrations will focus on activities, rather than food. No food will be served."</p>

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance	
NS5	Addresses limiting sugar content of foods sold/served outside of USDA meals.	N/A	<b>our school district does not have this grade level</b>
		0	<b>Not mentioned</b> If policy specifies Dietary Guidelines for Americans and no other standards, rate as "0." A policy that just regulates or limits candy does NOT qualify for a rating of "1" or "2."
		1	<b>Any of the following:</b> Limit is not quantified. Limit is suggested, time- or location- specific, subject to principal's discretion, or weakened by other exceptions. Restrictions on sugar only apply to a percentage of food item. <b>Examples:</b> "Dry snacks sold at the K-8 level shall follow District Nutrition Standards minimizing the content of sugar." "Prohibits foods listing sugar, corn syrup, or other caloric sweeteners as the first ingredient." "Schools shall discourage consumption of sugary foods." "The district will encourage students to make nutritious food choices and will ensure that...schools regulate the sale of foods high in...added sugars." "The district shall consider sugar content, fat content, portion size, and lack of nutrients in all F&B sold or served to students." "...50% of food items sold must prohibit sugar as the first ingredient" "Nutrition guidelines that require the use of products that are high in fiber, low in added fats, sugar, sodium, and served in appropriate portion sizes consistent with USDA standards shall be established for all foods offered by the district's nutrition services department or contracted vendors."
		2	<b>Quantified and required limit of &gt;35% of total calories/total weight from sugar</b> <b>Example:</b> "Food sold outside the school meal program must contain no more than 40% of total calories/total weight from sugar."
		3	<b>Meets Institute of Medicine standard: ≤ 35% of total calories/weight from sugar</b> <b>Example:</b> "K-12 school food service, school store, and school vending machines sale of individual snack items per package shall include no more than 35% total calories/weight from sugar."
		4	<b>Competitive food ban</b>

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance	
NS6	Addresses limiting fat content of foods sold/served outside of USDA meals.	N/A	<b>Our school district does not have this grade level or does not have vending, school store, etc.</b>
		0	<b>Either of the following:</b> Not mentioned Indicates that schools shall "strive" to/"should" meet the Dietary Guidelines. <b>Example:</b> "...must include items that meet the 2005 Dietary Guidelines for Americans."
		1	<b>Any of the following:</b> Limit is not quantified. Limit is suggested, time- or location- specific, subject to principal's discretion, or weakened by other exceptions. Specifies the 2005 Dietary Guidelines for Americans and no other standards (applies to all food items). Restrictions on fat content only apply to a percentage of food items. <b>Examples:</b> "All food and beverages available to students at school are recommended to be food items low in fat." "The district will encourage students to make nutritious food choices and will ensure that...schools regulate the sale or serving of foods high in fat, sodium, or added sugars." "The district shall consider sugar content, fat content, portion size, and lack of nutrients in all food and beverages sold or served to students." "...50% of food items must contain no more than 40% of total calories from fat." "Nutrition guidelines that require the use of products that are high in fiber, low in added fats, sugar, sodium, and served in appropriate portion sizes consistent with USDA standards shall be established for all foods offered by the district's nutrition services department or contracted vendors."

			2	<p><b>Quantified and required limit but &gt; 35% total calories from fat</b></p> <p><b>Example:</b></p> <p>"Food and beverages sold outside the school meal program must contain no more than 40% of total calories/weight from fat."</p> <p>"No individual food item can exceed 8 grams of fat per serving."</p>
			3	<p><b>Meets Institute of Medicine standard: <math>\leq</math> 35% of total calories from fat</b></p> <p><b>Example:</b></p> <p>"K-12 school food service, school store, and school vending machine sale of individual snack items per package shall include no more than 35% of calories from fat and nine grams maximum per serving with the exception of nuts."</p>
			4	<p><b>Competitive food ban</b></p> <p><b>Example:</b></p> <p>"Competitive foods and beverages may not be sold on school campuses during the school day."</p>

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance	
NS7	Addresses limiting sodium content of foods sold/served outside of USDA meals.	N/A	<b>Our school district does not have this grade level</b>
		0	<b>Either of the following:</b> Not mentioned Indicates that schools shall "strive" to meet or "should" meet the USDA Dietary Guidelines. <b>Example:</b> "...must include items that meet the 2005 Dietary Guidelines for Americans."
		1	<b>Any of the following:</b> Limit is not quantified. Limit is suggested, time- or location- specific, subject to principal's discretion, or weakened by other exception. Specifies the 2005 Dietary Guidelines for Americans and no other standards (applies to all food items). Restrictions on sodium only apply to a percentage of food items. <b>Examples:</b> "Foods to avoid—consume only occasionally: high sodium foods (luncheon meats, cheeses, salty popcorn, pickles)." "The district will encourage students to make nutritious food choices and will ensure that...schools regulate the sale or serving of foods high in fat, sodium, or added sugars." "...50% of food items must contain no more than 600mg of sodium." "Nutrition guidelines that require the use of products that are high in fiber, low in added fats, sugar, sodium, and served in appropriate portion sizes consistent with USDA standards shall be established for all foods offered by the district's nutrition services department or contracted vendors."
		2	<b>Quantified and required limit but is &gt; 200 mg/portion</b> <b>Example:</b> "A snack food item sold individually shall contain no more than 240 mg of sodium per serving."

		3	<b>Meets Institute of Medicine standard: <math>\leq</math> 200 mg/portion for snacks</b> <b>Example:</b> "A snack food item sold individually shall contain no more than 200 mg of sodium per serving."
		4	<b>Competitive food ban</b>



### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance
NS8	Addresses limiting calorie content per serving size of foods sold/served outside of USDA meals.	<div>N/A</div> <b>Our school district does not have this grade level</b>
		<div>0</div> <b>Not mentioned</b> If policy specifies the current Dietary Guidelines for Americans and no other standards, rate as a "0." Limiting calories from fat, sugar, or any other group of nutrients does not qualify for a rating of "1" or "2." Provisions related to limiting "additional caloric sweeteners" also do not qualify for a rating of "1" or "2."
		<div>1</div> <b>Any of the following:</b> Limit is not quantified. Limit is suggested, time- or location- specific, subject to principal's discretion, or weakened by other exceptions. Restrictions only apply to a percentage of food items. <b>Examples:</b> "Foods sold outside of the National School Lunch Program shall contain a reasonable number of calories per package." "...50% of food items must contain no more than 300 calories/serving."
		<div>2</div> <b>Quantified and required limit but &gt; 200 calories/per serving</b> <b>Example:</b> "Individually sold snack items shall not exceed 240 calories per package."
		<div>3</div> <b>Meets Institute of Medicine standard: ≤ 200 calories/serving</b> <b>Example:</b> "Individually sold snack items shall not exceed 200 calories per package."
		<div>4</div> <b>Competitive food ban</b> <b>Example:</b> "Competitive foods and beverages may not be sold on school campuses during the school day."

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance	
NS9	Addresses increasing "whole foods" (whole grains, unprocessed foods, or fresh produce) sold/served outside of USDA meals.	N/A	<b>our school district does not have this grade level</b>
		0	<b>Any of the following:</b> Not mentioned Mentions only dried fruit, fruit juice, fruit roll-ups, etc. Indicates that schools shall "strive" to meet or "should" meet the USDA Dietary Guidelines. Reference to whole grains, fresh fruits, etc., only relative to school meals. Mentions only high-fiber items. <b>Examples:</b> "...must include items that meet the 2005 Dietary Guidelines for Americans."
		1	<b>Any of the following:</b> Encourages offering/consumption of whole grains, unprocessed foods, or fresh produce. Farm-to-School program is suggested. Specifies the current Dietary Guidelines for Americans and no other standards. List of food items includes fruits/vegetables that may include but are not limited to a list of items including non-fresh fruits/vegetables (e.g., dried/canned fruits/vegetables). <b>Examples:</b> "Schools are encouraged to make available locally grown produce to students for all school meals and food items sold outside of the reimbursable school meal program." "Schools are encouraged to source fresh fruits and vegetables from local farmers where practical."
		2	<b>Either of the following:</b> Definitively offering whole grains, unprocessed foods, or fresh produce Farm to School program is required or definitively in place <b>Examples:</b> "At least half of the grains served will be whole grains." "Only brown rice shall be served." "Produce from area farms shall be sold/served at all locations where food and beverages are sold/served."

Section 3. Nutrition Standards for Competitive and Other Foods and Beverages ( <i>continued</i> )				
NS10	Addresses food not being used as a reward.	N/A	<b>Our school district does not have this grade level</b>	
		0	<b>Any of the following:</b> Not mentioned Encourages the use of healthy food as a reward. Discourages using unhealthy food as a reward (e.g., donuts, Foods of Minimal Nutritional Value, etc.). Use of food as a reward in instructional programs shall require superintendent approval. Examples: "The district will provide teachers with guidelines on the use of food as a reward without specifying guidelines." "Staff is encouraged to limit the use of non-nutritious food as a reward/incentives and to promote nutritious options."	
		1	<b>Any of the following:</b> Discourages food as a reward Only allows healthy food as a reward <b>Examples:</b> "...strongly discourage the use of food/beverages as a reward or punishment." "...will encourage non-food alternatives as rewards." "Only healthy foods will be used as a reward." "Food should not be used as a reward." "Schools are encouraged to not use food or beverages that do not meet the nutrition standards for food and beverages sold individually as rewards." "Teachers shall not use food as a reward, especially those that do not meet the nutrition standards."	
		2	<b>Prohibits food as a reward.</b> Prohibition of food as a reward with the exception of Individual(ized) Academic Plans (IAP) or Individual(ized) Education Plans (IEP) still qualifies for a rating of "2." <b>Examples:</b> "Food rewards or incentives shall not be used in classrooms to encourage student achievement or desirable behavior." "The use of food or candy as a classroom reward for any school is prohibited."	

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance
NS11	Addresses limiting sugar content of beverages sold/served outside of USDA meals. (If the policy specifies guidelines for limiting added sugar in food, do not assume these guidelines apply to beverages).	<b>N/A</b> <b>Our school district does not have this grade level</b>
		<b>0</b> <b>Any of the following:</b> Not mentioned. Indicates that competitive beverages "should include" specific beverage items. <b>Examples:</b> "Competitive beverages should include milk, water, and 100% juice."
		<b>1</b> <b>Any of the following:</b> Limit is not quantified/specific. Limit is suggested, time- or location-specific, subject to principal's discretion, or weakened by other exceptions. Restriction only applies to a percentage of beverages. Indicates that competitive beverages "must/shall include" specific beverage items (which includes 100% juice). <b>Examples:</b> "...discourages sugar-laden beverages." "...50% of beverages must contain no caloric sweeteners." "The district shall consider sugar content, fat content, portion size, and lack of nutrients in all food and beverages sold or served to students." "50% of beverages must be 100% juice, milk, water, and electrolyte replacement drinks."
		<b>2</b> <b>Limit is quantified/specific, but beverages other than water, 100% juice and milk are allowed.</b> <b>Examples:</b> "Beverages sold outside the school meal program must contain no more than 40% of total calories/total weight from sugar." Sweetened teas, sports drinks, juice drinks and other beverages may not contain more than 66 calories per 8 oz serving. Flavored milk may contain no more than 4 g of sugar per oz. "...shall prohibit soda and allow only water and beverages that are at least 50% juice."
		<b>3</b> <b>Meets Institute of Medicine Standard: Prohibits beverages other than water, 100% fruit or vegetable juice, and flavored milk with no more than 22g total sugar per 8 oz.</b> <b>Examples:</b>

			<p>"Beverages with added sugars are not allowed."</p> <p>"Only water and 100% juice will be allowed at school."</p> <p>"Prohibits the sale of beverages with additional caloric sweeteners."</p>
		4	<p><b>Competitive food ban</b></p> <p><b>Example:</b></p> <p>"Competitive foods and beverages may not be sold on school campuses during the school day."</p>

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance	
NS12	Addresses limiting regular (sugar-sweetened) soda sold/served outside of USDA meals. (If the policy specifies guidelines for limiting added sugar in food, do not assume these guidelines apply to beverages).	N/A	<b>Our school district does not have this grade level</b>
		0	<b>Any of the following:</b> Not mentioned. Only prohibits Foods of Minimal Nutritional Value during meal times, or indicates that they should not be used as a source of revenue for the food service program. Encourages minimizing Foods of Minimal Nutritional Value on school campuses. <b>Example:</b> "The food service program shall strive to be financially self-supporting; however, if it is necessary to subsidize the operation, it will not be through the sale of Foods of Minimal Nutritional Value."
		1	<b>Any of the following:</b> Regular soda is limited but not prohibited. Prohibition of regular soda is suggested, time- or location-specific, or overridden by principal's discretion. Restriction only applies to a percentage of beverages. <b>Examples:</b> "If available, food and beverages sold individually should be limited to low-fat and non-fat milk, fruits, and non-fried vegetables." "At least 50% of beverages must be 100% juice, milk, water, and electrolyte replacement drinks."
		2	<b>Any of the following:</b> Regular soda is prohibited. Foods of Minimal Nutritional Value are prohibited at all times on school grounds (the definition of Foods of Minimal Nutritional Value includes soda). Soda is prohibited except for use by the school nurse. <b>Example:</b> "Soda will not be available on school grounds."
		3	<b>Meets Institute of Medicine Standard: Beverages with added caloric sweeteners are prohibited</b> <b>Examples:</b> "Only milk, water, and 100% juice will be available at school." "Approved beverages: milk, milk products, 100% juice, and water."
		4	<b>Competitive food ban</b> <b>Example:</b>

			"Competitive food and beverages may not be sold on school campuses during the school day."
<b>Section 3. Nutrition Standards for Competitive and Other Foods and Beverages (<i>continued</i>)</b>			
<b>#</b>	<b>Item</b>	<b>Rating Guidance</b>	
NS13	Addresses limiting fat content of milk sold/served outside of school meals. (If the policy addresses limiting the fat content of foods, do not assume these policies apply to milk).	N/A	<b>Our school district does not have this grade level</b>
		0	<b>Not mentioned</b> Mentioning nonfat or low-fat dairy products/foods does not qualify for a rating of "1" or "2." If policy explicitly allows whole milk, code as a "0."
		1	<b>Full-fat milk is prohibited, but only reduced-fat (2%) milk is available.</b> <b>Example:</b> "Schools shall provide reduced-fat milk where beverages are sold."
		2	<b>Any of the following:</b> Full-fat milk is prohibited, but reduced-fat (2%) and low-fat (1%) or skim milk are available. Policy mentions that non-fat/skim, low-fat (1%), are "offered," or "provided" without specifying "only." Limiting milk to only low-fat (1%) or non-fat/skim is specified but suggested, time- or location-specific, subject to principal's discretion, or weakened by other exceptions. <b>Examples:</b> "In high school, reduced fat, low-fat or skim milk may be sold." "Schools shall offer fat-free milk where beverages are sold." "At least 50% of beverage selections shall be 100% fruit juice, low fat or fat-free milk, and unflavored or unsweetened water."
		3	<b>Meets Institute of Medicine standard: only low-fat (1%) or non-fat/skim milk is allowed</b> <b>Example:</b> "District schools will sell only low-fat milk."
		4	<b>Competitive food ban</b> <b>Example:</b> "Competitive foods and beverages may not be sold on school campuses during the school day."

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance
NS14	Addresses serving size limits for beverages sold/served outside of school meals.	N/A <b>Our school district does not have this grade level</b>
		0 <b>Not mentioned</b> If policy specifies the 2005 Dietary Guidelines for Americans and no other standards, rate as a 0.
		1 <b>Either of the following:</b> Limit for drinks other than water is greater than 12 ounces. Limit is suggested, time- or location-specific, subject to principal's discretion, or weakened by other exceptions. <b>Examples:</b> "All beverages other than water and milk shall be 12 oz. or less." "The district shall consider sugar content, fat content, portion size, and lack of nutrients in all food and beverages sold or served to students."
		2 <b>Limit for drinks other than water is &gt; Institute of Medicine standards, but no more than 12 ounces/serving</b> <b>Example:</b> "Juice will be served to elementary school students in 6-ounce containers."
		3 <b>Meets Institute of Medicine standards (must meet ALL standards to be rated as a "3"):</b> Water any size; AND 8 oz./serving for milk (including flavored milk); AND Elementary and middle school- Juice: 4 oz./serving for 100% juice; High school- Juice: 8 oz./serving for 100% juice. <b>Example:</b> "District schools will follow the Institute of Medicine's recommendations for beverage serving sizes."
		4 <b>Competitive food ban</b> <b>Example:</b> "Competitive foods and beverages may not be sold on school campuses during the school day."





### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance	
NS15	Addresses access to free drinking water.	N/A	<b>Our school district does not have this grade level</b>
		0	<b>Any of the following:</b> Not mentioned. Policy only addresses the sale of bottled water. Providing access to drinking water/fountains only during meal periods/in the cafeteria. Allowing students to bring in bottled water from home. Only addresses water available in the context of physical education/physical activity. <b>Examples:</b> "Schools should ensure that students have access to appropriate hydration and are encouraged to make use of it during physical activity." "Students will have access to a drinking fountain during meals."
		1	<b>Availability of free water is suggested or encouraged</b> <b>Examples:</b> "Water shall be accessible during hours of school operation through choices such as drinking fountains or vending machines." "Schools are encouraged to provide drinking fountains throughout the school campus."
		2	<b>Free water is always available</b> <b>Example:</b> "Students and staff will have access to free, safe, and fresh drinking water throughout the school day." "Drinking water fountains will be made available to students and staff throughout the school building." "Students will be provided access to drinking water throughout the day."

### Section 3. Nutrition Standards for Competitive and Other Foods and Beverages *(continued)*

#	Item	Rating Guidance	
NS16	Regulates food sold for fundraising at all times (not only during the school day).	N/A	<p>Note: Must specifically address "fundraising" for a rating of a "1" or "2." Regulating "all foods" during "the school day" or "at all times on school grounds" does NOT qualify for a rating of "1" or "2" because fundraising can occur off school grounds (e.g., catalogue orders for candy or cookie sales).</p> <p><b>Our school district does not have this grade level</b></p>
		0	<p><b>Any of the following:</b>            No mention of nutrition standards for food sold for fundraising.            Strives to/should meet the 2005 Dietary Guidelines for Americans.            Mentions regulating food and beverages sold for fundraising/all food and beverages without specifying guidelines,            Mentions plans to establish guidelines for school-sponsored fundraising that involves selling food without mentioning guidelines, healthy food, etc.</p>
		1	<p><b>Any of the following:</b>            Regulations of food sold for fundraising are vague, suggested, time- or location-specific, subject to principal's discretion, or weakened by other exceptions.            The 2005 Dietary Guidelines for Americans and no other standards are mentioned to regulate food sold for fundraising.            Regulations of food sold for fundraising only apply to a limited group of foods (e.g. prohibiting Foods of Minimal Nutrition Value) or a percentage of items sold.  <b>Examples:</b>            "...strongly encouraging the use of only non-food items to raise funds."            "...requiring administrative approval for all fundraisers."            "The district shall provide parents with a list of foods that meet the Board's snack standards for healthy celebrations/parties, rewards, and fundraising activities" (and no other language related to fundraising is included in the policy).            "Fundraising activities will strive to support healthy eating and wellness."</p>
		2	<p><b>Any of the following:</b>            Regulate nutritional quality of each individual item sold for fundraising (e.g., regulating maximum calorie, sugar, or saturated fat content of ALL items sold).            Provide a specific and restricted list of food items allowed to be sold for fundraising (e.g., limiting sales to water, fruits, vegetables, whole grains, and nuts).</p>

		<p>Provide a comprehensive list of prohibited unhealthy foods (e.g., baked goods, sweetened beverages, and candy) from being sold for fundraising.</p> <p>Prohibits the sale of food for fundraising.</p> <p><b>Example:</b></p> <p>"Foods purchased to raise funds must also meet the District's Nutrition Standards" – and standards are defined.</p>
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Section 4. Physical Education and Physical Activity		
Many states list National Association for Sport & Physical Education (NASPE) standards. Only rate a "2" for items with NASPE defaults if district actually requires schools to follow NASPE standards, and it is clear from the context of the statement that NASPE standards apply to those items. If NASPE standards are suggested, rate as "1."		
#	Item	Rating Guidance
PEPA1	Addresses written physical education curriculum/program for each grade level.	<p><b>0</b></p> <p><b>Either of the following:</b>            Not mentioned.            Physical education is included in the health education curriculum.  <b>Example:</b>            "Division health education curriculum standards and guidelines address both nutrition and physical education."</p>
		<p><b>1</b></p> <p><b>Any of the following:</b>            Unclear if each grade has a physical education curriculum/program.            A curriculum is identified but limited to only some grade levels.            Addresses minimum amount of time for physical education but does not mention curriculum/program.  <b>Example:</b>            "Physical education will be provided in K-8" (in a district that extends beyond grade 8).</p>
		<p><b>2</b></p> <p><b>Either of the following:</b>            Clear that district has a written physical education curriculum/program for each grade (e.g., policy describes a general physical education curriculum/program for "K-12," "all levels," or "all students").            Clear that written physical education program is provided for "K-12," "all levels" or "all grades," and mentions time requirements (without using the word "curriculum").  <b>Example:</b>            "The Physical Education Committee will submit for approval a K-12 comprehensive curriculum/program. All students in grades 1-5 will be scheduled for physical education instruction in accordance with state law. All students in grades 6-8 and 9-11 shall participate in the instructional program of physical education. Physical education in grade 12 is an elective."</p>
PEPA2	Addresses time per week of physical education for elementary school students.	<p><b>N/A</b></p> <p><b>My district does not have an elementary school</b></p>
		<p><b>0</b></p> <p><b>Not mentioned</b></p>
		<p><b>1</b></p> <p><b>Any of the following:</b>            Suggests but does not require 150 minutes/week.            Specifies total amount of physical education, but it is less than 150 minutes/week.            Suggests that schools follow NASPE standards.</p>

			<p>Specifies number of classes per week without duration.</p> <p>Time is specified for overall physical activity that specifically includes physical education.</p> <p><b>Example:</b></p> <p>"Schools will use NASPE standards as a guide when planning physical education classes."</p>
		2	<p><b>Either of the following:</b></p> <p>Requires 150 minutes/week or more of physical education.</p> <p>Requires schools to follow NASPE standards.</p> <p><b>Example:</b></p> <p>"Students shall receive 150 minutes per week of physical education instruction, per NASPE guidelines."</p>
PEPA3	Addresses time per week of physical education for middle school students.	N/A	<b>My district does not have a middle school</b>
		0	<b>Not mentioned</b>
		1	<p><b>Any of the following:</b></p> <p>Suggests but does not require 225 minutes/week.</p> <p>Specifies total amount of physical education, but it is less than 225 minutes/week.</p> <p>Suggests that schools follow NASPE standards.</p> <p>Specifies number of classes per week without duration.</p> <p>Time is specified for overall physical activity that specifically includes physical education.</p> <p><b>Example:</b></p> <p>"Schools will make an effort to plan classes so that students may participate in physical education daily."</p>
		2	<p><b>Either of the following:</b></p> <p>Requires 225 minutes/week or more of physical education.</p> <p>Requires schools to follow NASPE standards.</p> <p><b>Example:</b></p> <p>"The school district requires that all middle and high school students receive 225 minutes of physical education instruction per week."</p>

### Section 4. Physical Education and Physical Activity(continued)

#	Item	Rating Guidance	
PEPA4	Addresses time per week of physical education for high school students.	N/A	<b>My district does not have a high school</b>
		0	<b>Not mentioned</b>
		1	<b>Any of the following:</b> Suggests but does not require 225 minutes/week. Specifies total amount of physical education, but it is less than 225 minutes/week. Suggests that schools follow NASPE standards. Specifies number of classes per week without duration. Time is specified for overall physical activity that specifically includes physical education. <b>Example:</b> "Every effort will be made to make physical education available to students daily."
		2	<b>Either of the following:</b> Requires 225 minutes/week or more of physical education. Requires schools to follow NASPE standards. <b>Example:</b> "District schools will follow NASPE standards when scheduling physical education classes for all students."

PEPA5	Addresses teacher-student ratio for physical education.	0	<b>Not mentioned</b>
		1	<b>Vague and/or suggested</b> <b>Examples:</b> "For physical education classes, the district shall staff those classes to provide for student safety and maximize student participation." "Physical education classes will have student/teacher ratios similar to those used in other classes." "Physical education class size is consistent with the requirement of good instruction and standing."
		2	<b>Specific and required</b> <b>Example:</b> "Physical education classes will have the same student/teacher ratios used in other classes."

PEPA6	Addresses adequate equipment and facilities for physical education.	0	<p><b>Any of the following:</b>          Not mentioned.          Generic statements about safe environment/facilities that do not mention physical education or indicative of equipment used for physical education.          Suggests that schools follow "national physical education standards or nationally recognized guidelines for physical education and physical activity" without mentioning NASPE standards.  <b>Example:</b>          "Creating a positive environment for PA – all schools in the district will provide a physical and social environment that encourages safe and enjoyable activity for all students."</p>
		1	<p><b>Any of the following:</b>          Suggested or encouraged.          Mentions NASPE standards OR the standards of American Alliance for Health, Physical Education, Recreation and Dance. (This Alliance embeds NASPE.)          Requires schools to follow "national physical education standards or nationally recognized guidelines for physical education and physical activity" without mentioning NASPE standards.          Indicates that play areas, facilities, and equipment used for physical activity shall meet accepted standards.  <b>Examples:</b>          "Pursuant to district XYZ, physical education is required to be offered to all pupils; therefore, schools are required to provide adequate facilities and instructional resources for the institution."</p>
		2	<p><b>Ensures that equipment and facilities specifically used for physical education are adequate</b>          NASPE standards do not qualify for a rating of a "2."  <b>Example:</b>          "The physical education program shall be provided adequate space and equipment and conform to all applicable safety standards."</p>



Section 4. Physical Education and Physical Activity <i>(continued)</i>		
#	Item	Rating Guidance
PEPA7	Addresses qualifications for physical education instructors.	0 <b>Not mentioned</b>
		1 <b>Either of the following:</b> Credentials are vaguely referred to or suggested. NASPE standards are suggested. <b>Examples:</b> "Physical education shall be taught by appropriate staff." "When possible, physical education will be taught by a licensed instructor."
		2 <b>Either of the following:</b> Requires that physical education be taught by a licensed instructor. Requires schools to follow NASPE standards. <b>Example:</b> "Physical education will be taught by a licensed instructor."
PEPA8	District provides physical education training for physical education teachers.	0 <b>Either of the following:</b> Not mentioned. Staff only receives training/professional development related to physical activity without mention of physical education.
		1 <b>Suggested that all staff or physical education staff receive physical education-related training/professional development</b> <b>Example:</b> "All staff involved in physical education should be provided with opportunities for professional development."
		2 <b>Provision of physical education training is required for physical education teachers</b> If physical education-specific training is provided for a broader set of staff or teachers, it is assumed that physical education teachers are included and will receive the training too. <b>Example:</b> "Ensures PE staff will receive professional development on a yearly basis." "...shall provide staff with adequate training in PE."
PEPA9	Addresses physical education waiver requirements (e.g., substituting physical education requirement with other activities).	0 <b>Either of the following:</b> Not mentioned. Waivers for physical education are explicitly allowed in all instances. <b>Example:</b>

			"Unless otherwise exempted, all students will be required to engage in the physical education program." An exemption could include physical education waivers.
		1	<b>Either of the following:</b> Waivers for physical education are discouraged. Waivers for physical education are prohibited with the exception of substituting physical activities (e.g., team sports) for physical education. <b>Example:</b> "Academic activities shall not take the place of physical education. However, students on the school's sports teams may substitute participation for physical education credits."
		2	<b>Prohibits substituting physical education with other activities, including physical activities.</b> Rate this item as a "2" if waivers are prohibited with the exception of Individual(ized) Academic Plans (IAP) or Individual(ized) Education Plans (IEP). Rate this item as a "2" for the elementary level if the policy prohibits recess from taking the place of physical education. <b>Example:</b> "Schools shall not give physical education credit to student involved in sports. Sports and academic activities may not take the place of physical education."
PEPA10	Regular physical activity breaks are provided for elementary school students during classroom time, not including PE and recess.	0	<b>Either of the following:</b> Not mentioned. Only addresses physical activity before or after school.
		1	<b>Vague and/or suggested</b> <b>Example:</b> "Classrooms shall incorporate, where possible, appropriate, short breaks that include physical movement."
		2	<b>Either of the following:</b> Regular physical activity throughout the day is required. Policy requires training for teachers on activities that incorporate physical activity throughout the day. <b>Examples:</b> "Physical activity opportunities shall be offered daily during the school day." "Shall provide Take 10! training to all teachers."
PEPA11		0	<b>Not mentioned</b>

	Addresses structured physical activity before or after school through clubs, classes, intramurals or interscholastic activities.	1	<b>Either of the following:</b> Provision is suggested. A list of physical activities that should be offered includes intramurals. <b>Example:</b> "Intramural offerings should be maintained at present levels and steadily increased to accommodate elementary, middle, and high school grades."
		2	<b>Provision of physical activity classes, clubs, intramurals or interscholastic activities is required.</b> <b>Example:</b> "Participation in intramural sports shall be an option for all students."

PEPA12	Addresses community use of school facilities for physical activity outside of the school day.	0	<b>Not mentioned</b>
		1	<b>Availability of school facilities for physical activity is suggested</b> <b>Example:</b> "The district should allow community-based organizations to use facilities outside school hours."
		2	<b>Either of the following:</b> States effort to promote the use of facilities. Ensures that facilities will be available. <b>Example:</b> "The district is encouraged to promote the use of school facilities outside of school hours for physical activity programs offered by community-based organizations."

PEPA13	Addresses not restricting physical activity as punishment.	0	<b>Not mentioned</b>
		1	<b>Discouraged</b> <b>Example:</b> "Students should not be pulled out of physical education for any other content area instruction or punishment."
		2	<b>Prohibition with exceptions for Individual(ized) Academic Plans (IAP) or Individual(ized) Education Plans (IEP)</b> <b>Example:</b> "Staff members shall not deny participation in recess or other physical activity opportunities as a form of discipline or punishment unless the safety of students is in question."

PEPA14	Addresses provision of daily recess in elementary school.	0	<b>Not mentioned</b>
		1	<b>Either of the following:</b>

		<div data-bbox="841 186 1433 411"> <p>Recess is included in a list of possible activities offered daily. It is suggested that recess will be provided daily. <b>Example:</b> "Supervised recess time should be provided to all students within each school day at all elementary schools."</p> </div> <div data-bbox="841 411 1433 533"> <p><b>Specific and required</b> <b>Example:</b> "All elementary school students shall have daily recess."</p> </div>
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Section 5. Evaluation		
#	Item	Rating Guidance
E1	Establishes a plan for policy implementation.	0 <b>Not mentioned</b>
		1 <b>Either of the following:</b> Identifies having or developing a plan without strong language. Suggests that effort will be made to implement only parts of the policy. <b>Example:</b> "The district will strive to implement the policy by..."
		2 <b>Uses strong language and identifies having or developing a plan for implementing specific policy changes.</b> <b>Example:</b> "The principal shall ensure that vending machines are in compliance with district standards by the end of the first quarter of the school year."
E2	Addresses a plan for policy evaluation.	0 <b>Not mentioned</b>
		1 <b>Either of the following:</b> Some kind of pre-policy and post-policy assessment is implied. <b>Example:</b> "The district expects to conduct an assessment of the health and fitness policy in the spring."
		2 <b>ALL of the following:</b> An evaluation plan is required. Specific outcomes to be measured are stated (e.g., student fitness test, number of classes/workshops held, meal participation rates, fiscal impact, student learning, School Health Index). <b>Example:</b> "The Advisory Council shall meet at least annually to review nutrition and physical activity policies, evidence on student health impact, and effective programs and program elements."

Section 5. Evaluation (continued)		
#	Item	Rating Guidance
E3	Addresses providing a progress report to a specific audience.	0 <b>Not mentioned</b>
		1 <b>It is suggested that there will be a progress report</b> <b>Example:</b> "The wellness committee will discuss ways to present their progress to the Superintendent."
		2 <b>ALL of the following:</b> Reporting on progress is required. It is clear that a report will be made to a specific audience (e.g., Board of Education, administration, Parent Teacher Association/ Parent Teacher Organization, and the public). <b>Example:</b> "The advisory council shall prepare a report annually for the Superintendent evaluating the implementation of the policy and regulations and include any recommended changes or revisions."

E4	Identifies a plan for revising the policy.	0 <b>Not mentioned</b>
		1 <b>Either of the following:</b> Future intention in making a decision to revise. <b>Examples:</b> "May meet to discuss revisions to policy." "May suggest changes."
		2 <b>Discusses revision to policy in any way by any person or group</b> <b>Examples:</b> "Will meet to discuss revisions to policy." "The policy shall be revised as necessary."

## School Wellness Policy Score Sheet

District ID \_\_\_\_\_

The following tables include wellness policy statement numbers and item descriptions broken down by section. Please rate the level to which each policy item is addressed in the school wellness policy.

0 = Not mentioned

1 = Weak Statement

2,3,4 = Meets/Exceeds Expectations

Section 1. Nutrition Education and Wellness Promotion		
Rating	#	Item
	NEWP1	Provides nutrition curriculum for each grade level.
	NEWP2	Links nutrition education with the school food environment.

	NEWP3	Nutrition education teaches skills that are behavior focused.
	NEWP4	Encourages staff to be role models for healthy behaviors.
	NEWP5	Specifies district using the Centers for Disease Control and Prevention's (CDC) Coordinated School health program model or other coordinated/comprehensive method.
	NEWP6	Specifies how district will engage families to provide information and/or solicit input to meet district wellness goals (e.g., through website, e-mail, parent conferences, or events).
	NEWP7	Specifies marketing to promote healthy choices.
	NEWP8	Specifies restricting marketing of unhealthful choices.
	NEWP9	Establishes an advisory committee to address health and wellness that is ongoing beyond policy development.

## **Section 2. Standard for USDA Child Nutrition Programs and School Meals**

Rating	#	Item
	US1	Addresses access to and/or promotion of the School Breakfast Program (USDA)
	US2	Addresses nutrition standards for school meals beyond USDA (National School Lunch Program / School Breakfast Program) minimum standards. Note: USDA "school meals" include beverages served with the meal.
	US3	Specifies strategies to increase participation in school meal programs. ("School meal programs" can be assumed to refer to breakfast and/or lunch.)
	US4	Ensures adequate time to eat.
	US5	Ensures nutrition training for food service director and/or onsite manager (or other person responsible for menu planning).
	US6	Addresses school meal environment.
	US7	Nutrition information for school meals (e.g. calories, saturated fat, sugar) is available.

## **Section 3. Nutrition Standards for Competitive and Other Foods and Beverages**

Rating	#	Item
	NS1	Regulates vending machines.
	NS2	Regulates school stores. Note: If policy only mentions concessions or snack bars, do not code for school stores, unless policy defines concessions and/or snack bars as including school stores.
	NS3	Regulates food service a la carte OR food sold as an alternative to the reimbursable school meal program (if not defined as to what this means).
	NS4	Regulates food served at class parties and other school celebrations.
	NS5	Addresses limiting sugar content of foods sold/served outside of USDA meals.
	NS6	Addresses limiting fat content of foods sold/served outside of USDA meals.
	NS7	Addresses limiting sodium content of foods sold/served outside of USDA meals.
	NS8	Addresses limiting calorie content per serving size of foods sold/served outside of USDA meals.
	NS9	Addresses increasing "whole foods" (whole grains, unprocessed foods, or fresh produce) sold/served outside of USDA meals.
	NS10	Addresses food not being used as a reward.
	NS11	Addresses limiting sugar content of beverages sold/served outside of USDA meals. (If the policy specifies guidelines for limiting added sugar in food, do not assume these guidelines apply to beverages).
	NS12	Addresses limiting regular (sugar-sweetened) soda sold/served outside of USDA meals. (If the policy specifies guidelines for limiting added sugar in food, do not assume these guidelines apply to beverages).

	NS13	Addresses limiting fat content of milk sold/served outside of school meals. (If the policy addresses limiting the fat content of foods, do not assume these policies apply to milk).
	NS14	Addresses serving size limits for beverages sold/served outside of school meals.
	NS15	Addresses access to free drinking water.
	NS16	Regulates food sold for fundraising at all times (not only during the school day).

#### **Section 4. Physical Education and Physical Activity**

Rating	#	Item
	PEPA1	Addresses written physical education curriculum/program for each grade level.
	PEPA2	Addresses time per week of physical education for elementary school students
	PEPA3	Addresses time per week of physical education for middle school students.
	PEPA4	Addresses time per week of physical education for high school students.
	PEPA5	Addresses teacher-student ratio for physical education
	PEPA6	Addresses adequate equipment and facilities for physical education.
	PEPA7	Addresses qualifications for physical education instructors.
	PEPA8	District provides physical education training for physical education teachers.
	PEPA9	Addresses physical education waiver requirements (e.g., substituting physical education requirement with other activities).
	PEPA10	Regular physical activity breaks are provided for elementary school students during classroom time, not including PE and recess.
	PEPA11	Addresses structured physical activity before or after school through clubs, classes, intramurals or interscholastic activities.
	PEPA12	Addresses community use of school facilities for physical activity outside of the school day.
	PEPA13	Addresses not restricting physical activity as punishment.
	PEPA14	Addresses provision of daily recess in elementary school.

#### **Section 5. Evaluation**

Rating	#	Item
	E1	Establishes a plan for policy implementation.
	E2	Addresses a plan for policy evaluation.
	E3	Addresses providing a progress report to a specific audience.
	E4	Identifies a plan for revising the policy.

#### **Review scoring information on page 4.**

**Section 1:** Comprehensiveness= (total # of items in Section 1 receiving a "1" or "2" /9) x 100= \_\_\_\_\_

Strength= (total number of items in Section 1 receiving a "2" /9) x

100= \_\_\_\_\_

**Section 2:** Comprehensiveness= (total # of items in Section 2 receiving a "1" or "2" /7) x 100= \_\_\_\_\_

Strength= (total number of items in Section 2 receiving a "2" /7) x

100= \_\_\_\_\_

**Section 3:** Comprehensiveness= (total # of items in Section 3 receiving a "1", "2", "3", or "4" /16) x 100= \_\_\_\_\_

Strength= (total number of items in the Section 3 receiving a "2" "3", or "4" /16) x

100= \_\_\_\_\_

**Section 4:** Comprehensiveness= (total # of items in Section 4 receiving a "1" or "2" /14) x 100= \_\_\_\_\_



Strength= (total number of items in Section 4 receiving a "2" /14) x  
100= \_\_\_\_\_

**Section 5: Comprehensiveness=** (total # of items in Section 5 receiving a "1" or "2" /4) x  
100= \_\_\_\_\_

Strength= (total number of items in Section 5 receiving a "2" /4) x  
100= \_\_\_\_\_

**Total Comprehensiveness=** (total number of items in ALL sections receiving a "1","2","3",or "4"  
/50) x 100= \_\_\_\_\_

**Total Strength=** (total number of items in ALL sections receiving a "2" "3",or "4" /50) x  
100= \_\_\_\_\_